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Havana, Cuba, 6 to 11 May 1982

# COMPARABILITY OF THE SYSTEMS OF NATIONAL ACCOUNTS AND THE MATERIAL PRODUCT IN LATIN AMERICA */

*/ This version does not include the annexes contained in the Spanish version.

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/SUMMARY

## SUMMARY

Economic accounting, national accounting or social accounting schemes have been established for the purpose of organizing and summarizing the extensive economic statistical information into brief but internally consistent indicators which show the unique characteristics of each economy and, at the same time, make possible comparative analyses among countries and regions.

Since social accounting systems attempt to record and reflect, above all, the current economic reality of each country, they should be designed in accordance with the institutional organization and mode of operation of each society. For this reason, two systems of national accounting have been developed and applied internationally: the System of National Accounts (SNA) in countries with market economies and the Material Product System (MPS) in countries with centrally planned economies. In Latin America, Cuba uses MPS and the rest of the countries SNA.

Both systems accomplish the same purpose of measuring all the important economic flows which take place in a country, using a consistent scheme. The accounting structure and the method of recording and presenting the information is different in each system: SNA does this through accounts, while MPS uses balances. This difference is not essential, however, since there is no major difficulty in going from one form of registry to the other. The basic differences between the two systems lie, firstly, in the delimiting of the boundary of economic production and, secondly, in the applying of criteria for the definition and method of considering certain transactions in particular.

The scope of economic activities is practically the same in the two systems. But whereas in SNA all the activities are simultaneously considered productive, that is, as part of the economic production and the corresponding generation of incomes, MPS considers within the framework of economic production -and thus as activities which generate primary incomes- only those economic activities related to the production and distribution of material goods. Thus, MPS divides economic activities into two spheres: the material sphere, which includes the activities considered as productive, and the non-material sphere. In principle, the material sphere includes all the sectors which produce goods and the service sectors related to the distribution of these goods. The non-material sphere includes all the remaining services.

The basic measures of the economic process are the gross domestic product in SNA and the net material product in MPS. One problem which has caused concern and a great dedication of efforts in recent years at the international level consists of determining the similarities and differences between the two concepts and explaining the adjustments and information necessary to go from one concept to the other, as well as the added categories in which these concepts are classified in respect of production, the composition of expenditure and the generation of incomes. Its adequate elucidation will make it possible to bridge the conceptual gap between the two systems and achieve the practical result of comparable estimates among the countries and regions. In Latin America, these efforts will begin at the


/Regional Seminar

Regional Seminar of Experts on Comparisons of the System of National Accounts and the System of Balances of the National Economy, organized by CEPAL. For this purpose, and in support of the seminar meeting, this document has been prepared, which summarizes in its first chapter the basic characteristics of the two systems, sums up the main similarities and differences between the two systems in its second chapter, and, in its third chapter, presents the necessary steps, as a first practical experience, for converting Cuba's current estimates on the supply and utilization of goods and services and composition of the added value, which were made according to MPS, to SNA terms.

/INTRODUCTION

## INTRODUCTION

1. This document reviews the links between the revised System of National Accounts (SNA) for use in countries with market economies, and the improved version of the System of Balances of the National Economy, hereinafter referred to as the Material Product System (MPS), for use in countries with centrally planned economies.1/

2. The study of the links between the two systems was initiated early in the 1960s by the Statistical Commission in co-operation with the Conference on European Statistics. As a result of the work done during this period, considerable progress was made in eliminating non-essential differences between the definitions and classifications of the two systems; this work also had some influence on the development of both the revised SNA and the expanded version of MPS.2/ The results of the work in this phase, whose main objective was to develop a consistent conceptual framework for the comparability and conversion of both systems, were published in 1977.3/

3. In the 1970s, work con the activities designed to supplement the theoretical results described in the latter publication continued and efforts were made to prepare numerical estimates for a number of countries with market economies and centrally planned economies, with the principal aim of testing the conceptual framework prepared, gaining experience in obtaining the primary data necessary for the conversion adjustments from one system to the other and ensuring subsequent progress in the preparation of the conceptual framework of the comparisons.

4. As part of this work it has been suggested that the studies on the detailed comparison of national practices and the development of conversion codes should be centred in the regional commissions.4/ At the same time, stress has been laid on the importance of encouraging bilateral comparisons between countries using SNA and MPS, respectively, since these exercises make it possible to assemble more detailed information for the preparation of estimates, and also to take into account not only the conceptual but also the institutional differences.5/ A positive experience of this type of comparison, which has demonstrated the

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1/ United Nations, A System of National Accounts, Studies in Methods, Series F, No. 2, Rev. 3, New York, 1968, and Basic principles of the System of Balances of the National Economy, Studies in Methods, Series F, No. 17, New York, 1971.

2/ United Nations, Statistical Commission, Progress report on links between the System of National Accounts (SNA) and the System of Balances of the National Economy (MPS), on the work done in connexion with the comparisons between SNA and MPS (E/CN.3/511), 16 June 1978, paragraph 1.

3/ United Nations, Comparisons of the System of National Accounts and the System of Balances of the National Economy, Studies in Methods, Series F, No. 20, Part One, "Conceptual Relationships", New York, 1977.

4/ United Nations, Progress report on links ... (E/CN.3/511), op. cit., paragraph 25.

5/ United Nations, Statistical Commission, Links between the System of National Accounts (SNA) and the System of Balances of the National Economy (MPS) (E/CN.3/543), 5 May 1980, paragraph 74.

/advantages of

advantages of the estimates prepared by joint teams of national statisticians from the pairs of countries concerned is the work done between France and Hungary.6/

5. During the whole of this time CEPAL has shown particular interest in acquainting itself with and closely following the work done in this field by the Statistical Office and the Conference of European Statisticians, in the interest of a closer co-ordination of international statistics. Furthermore, the links between the two accounting systems have awakened growing interest in the region, since in Latin America, too, the use of one or the other of the two systems precludes comparisons between all the countries of the region and complete analyses of the region as a whole. While most of the countries use SNA, Cuba uses MPS.

6. Accordingly, CEPAL has considered that the time has come to participate actively in this field with the aim of adding its own efforts to those of the United Nations Statistical Office in obtaining comparable international statistics, as part of its activities to promote progress towards a closer co-ordination of the estimates prepared by the member countries which would be of a functional nature for the co-operation activities, and as a requirement for having available reliable and comparable macroeconomic information for all the countries of the region.

7. For this purpose, CEPAL has organized in Havana, with the support of the Institute of Ibero-American Co-operation of Spain and under the sponsorship of the Government of Cuba, the Regional Seminar of Experts on Comparisons of the System of National Accounts and the System of Balances of the National Economy in Latin America, which will bring together experts on national accounts from the countries of Latin America and the Caribbean with a view to a wider and more efficient dissemination of the compared scope and characteristics of SNA and MPS, the exchange of experience concerning the practical implementation of the two systems in the region and their statistical requirements, and a discussion of the adjustments that might be introduced for the conversion of the relevant estimates.

8. This document has been prepared jointly by staff members of CEPAL and the State Statistical Committee of Cuba (CEE), with the help and advisory assistance of Dr. Piroska Horváth of the Central Statistical Office of Hungary, with this end in view and for the purpose of guiding the discussions. A preliminary version was prepared by Dr. Horváth with the co-operation of José A. López Pereda and Jesús R. Ibáñez Morales, of the State Statistical Committee, and Rómulo Caballeros of the CEPAL Office in Mexico. It was subsequently revised and the final version was prepared and presented by Enea Avondoglio, of the CEPAL Division of Statistics and Quantitative Analysis, with the co-operation of R. Caballeros.

9. As the conceptual and practical difficulties of completely linking the two systems are well known, it is both necessary and advisable to undertake the comparative analysis gradually and by stages. Therefore, the comparison of SNA and MPS is limited in this first analysis to current and aggregate transactions related to those functions which are most comparable between the two systems and

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6/ United Nations, Statistical Commission and Economic Commission for Europe, Comparison of the national accounts and balances of France and Hungary (CES/451), 12 May 1981.

/which are

which are not too greatly affected by institutional differences. Hence the comparison developed refers only to the supply and use of goods and services and the composition of the value added, but does not cover aspects of income redistribution or financial flows.

10. Moreover, this analysis also centres on the comparison of estimates at present prepared by the countries of the region under SNA or MPS for a current year, without touching on aspects or problems related to the preparation of annual series at constant prices.

11. In order to base the comparison on the practical implementation of SNA and MPS in Latin America, account has been taken of the methods and procedures normally adopted by the countries using SNA, which in the majority of them may be considered to be in widespread use.7/ In the case of Cuba, comments on the procedures used in the implementation of MPS were obtained directly from technical staff members of CEE.

12. In order to analyse the comparability between the aggregates of the Cuban economy under MPS and those likely to result from the implementation in that economy of the more generalized SNA practices in Latin America, it was necessary to consider the similarities and differences of the two systems wtthin a context of the diversity of criteria and methods generally adopted by the countries of the region using SNA. This was done by basing the comparison on both the standard concepts proposed in the international recommendations and the methods of calculation in more generalized use by these countries as a whole.

13. Accordingly, the analysis presented here on the links and comparability between the estimates of the Latin American countries using SNA and of Cuba, which uses MPS, and the types of adjustments proposed for conversion from one system to the other, should be considered on a conceptual plane and, therefore, subject to the modifications which their practical use determines. It is quite likely that in a direct comparison between Cuba and a country of the region using SNA some aspects not contemplated in this document may arise, since the concepts used in national statistics are not always in line with international recommendations, nor do the practical calculation procedures of a particular country necessarily correspond with those considered here to be in generalized use.

14. The work concerned with the comparability of SNA and MPS and the conversion of the two systems has been done keeping well in mind the experience gained in the work of bilateral comparisons between France and Hungary 8/ and the theoretical principles indicated in the United Nations document on the comparison of the systems.9/ It should be noted, however, that this publication is in process of revision, which is why the present document contains specific clarifications concerning some aspects of it which have been recognized as requiring further study or correction.

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7/ See, in this respect, El desarrollo de las cuentas nacionales en América Latina y el Caribe (E/CEPAL/SEM.2/L.1), 5 August 1981.

8/ United Nations, Comparison of the ... (CES/451), op. cit.

9/ United Nations, Comparisons of the System ..., Series F, No. 20, op. cit. A revised version of this document is currently being prepared by the Statistical Office, and a brief review of the clarifications, improvements and expansions which should be envisaged was presented in the report to the twenty-first session of the Statistical Commission, Links between the System ... (E/CN.3/543), op. cit., Part I, A.

15. The existing document comprises three chapters. The first contains a brief description of the basic characteristics of SNA and MPS. The second provides a comparison of production, expenditure and income aggregates in the two systems and ways in which they can be linked, and an analysis of some problems arising out of comparability. The third analyses the similarities and differences in the practical implementation of both systems in Latin America, and details of the adjustments required for the conversion of the aggregates from one system to the other.

16. A separate document in support of the discussions on the effective comparability of the two systems in Latin America summarizes in two annexes the methods, procedures and sources of information used in the implementation of MPS in Cuba and SNA in the rest of the countries of the region.

# I. MAIN CHARACTERISTICS OF THE TWO SYSTEMS

17. This chapter has two objectives: (i) to offer a brief description of the two systems in order to familiarize experts with the system they do not use, and (ii) to present the main differences between the two systems as regards concepts, accounting structure, definitions of transactions and transactors which may be relevant in linking and comparing their principal aggregates.
18. It is divided into three parts. The first presents briefly the basic approach and most important differences between the two systems in relation to the general treatment of transactions. The second and third parts, provide a description of the scope and accounting structure and main concepts and definitions of SNA and MPS, respectively.

## A. Basic system

19. The purpose of SNA and MPS is to reflect all the important economic flows in a country and the effects on its economy within the context of a consistent system.
20. Although there is a well-known and significant difference in the scope of production in the two systems, they both concentrate essentially on analysing the supply and destination of goods and services, income generated by production, its distribution, redistribution and expenditure, and the impact of these flows on the country's financial position and wealth. These economic flows may be classified in two main groups: those composed of goods and services and other flows.

### 1. Flows of goods and services

21. Each economic phenomenon linked with goods and services is reflected in two types of flows. One is related to goods and services as such; the other to income and related expenditure. Therefore, these economic flows may be observed from two viewpoints: the real side of the transactions in goods and services, or the related financial side.
22. As regards the first type of flow, the following are reviewed: (i) supply of goods and services, by national and imported origin, kind of economic activity, types of products, etc.; (ii) structure of production costs covering goods and services wholly or partially consumed during the production process, that is, intermediate consumption and fixed capital consumption, manpower costs, indirect taxes net of subsidies and operating surplus; and (iii) the destination of goods and services, classified as intermediate and final consumption, gross capital formation and exports.
23. Although the financial flows are numerically equivalent to the real aspect of a given economic phenomenon, they have a different significance. They show the value of expenditure on goods and services and the amount of income generated by production. In certain cases these flows may be differentiated from real flows by the words "expenditure on ..." and "income from ...".
24. In the case of transactions related to the structure of costs and income generated by production, there are no exact terms in which to express the differences between the two aspects; therefore, the same words frequently cover different contents. The cost of manpower (wages and salaries and employers' social contributions) is called compensation of employees in SNA, that is, the terms of income are used; the same situation arises in the case of other elements of gross production inputs.

/2. Other

## 2. Other flows

25. Under the head of other flows are included all other transactions not directly related to the flows of goods and services mentioned above. The majority are of a purely financial nature and are analysed according to the major SNA categories, with an indication of the analogous terms used in the MPS Financial Balance.

26. In the first place, mention should be made of transfers, excluding indirect taxes net of subsidies. This category covers all transactions related to the distribution and redistribution of income among economic agents. SNA classifies them as current and capital transfers, while MPS makes no such distinction and considers them as redistributive payments.

27. For SNA, transfers originating from the donor's current income for the purpose of helping to finance the recipient's current expenditure are current transfers. The group of capital transfers includes transfers intended to finance capital formation, other forms of accumulation or the recipient's long-term expenditure, and transfers which are not of a periodical nature in the case of either party.

28. In the second place are transactions related to financial assets and liabilities. The treatment of these operations by each agent is usually net for each category of financial instrument; that is to say, the net variation of a financial asset is equal to the value of its acquisitions, less that of its respective liquidations, while the net issue of a liability is equal to the value of the obligations less that of its liquidation.

29. Net lending is defined as the difference between the net acquisition of financial assets by transactors and their issue net of liabilities. In theory, net lending expresses the temporary redistribution of income and in practical terms is equal to each agent's financial investment (or disinvestment).

30. In accordance with SNA, it is assumed that financial transactions are not current transactions and are included in the capital finance account. In MPS they are considered as redistributive payments (excluding changes in gold reserves); the relevant terms are "payments to the credit system" and "income from the credit system", respectively.

31. Finally, the remaining flows comprise transactions related to net purchases of land and intangible assets, except financial assets. The definition of land covers subsoil deposits, forests and internal waterways; intangible assets, except financial assets, relate to purchases and sales of intangible assets which do not represent liabilities of third parties, i.e., which are not compensated for by liabilities (in other words, intangible assets). In MPS there is no explicit reference to this type of transaction and they are implicitly considered as redistributive payments.

# B. System of National Accounts (SNA)

## 1. Transactors

32. Before analysing the way in which economic transactions are observed and recorded in SNA, it is necessary to comment on the definition and classification of transactors, i.e., resident transactors of the system.

/(a) Domestic

(a) Domestic territory and concept of residence

33. Resident economic agents of a country comprise all production units which are situated or develop their activity in the domestic territory of a country and the individuals residing permanently in it.

34. The definition of domestic territory of a country excludes overseas territories and possessions and includes, besides the territory within its political frontiers: (i) ships and aircraft exploited by residents of the country which operate wholly or mainly between two or more countries, and (ii) fishing vessels and oil and natural gas production facilities and floating platforms exploited by residents of the country which operate wholly or mainly in international waters or are engaged in the extraction of those resources in areas over which the country concerned has exclusive exploitation rights by virtue of international agreements or statements.

35. This general definition needs to be expanded and clarified in particular cases, such as, for example, that of production units which operate in various countries and are organized by various states or enterprises resident in more than one country, and which are owned by them.10/

36. In addition to departments, establishments, etc., situated in the domestic territory, the concept of resident general government bodies of a country includes embassies, consulates and military establishments located in other countries. Thus, government units of a foreign state are considered to be extra-territorial or non-resident units by the country in which they are located.

37. Another special case is that of international bodies, such as political, administrative, economic, social or financial institutions established by the states, which are considered as non-resident units of the country in which they are found or operate.

38. The concept of adopted residence in the case of individuals and households is intended to include all persons who may be expected to consume goods and services and participate in production or other activities on a permanent basis in the domestic territory of a country. From this economic point of view, it excludes: (i) tourists, foreign visitors, foreign commercial travellers and employees of non-resident enterprises or international organizations which remain in the country for less than one year, and (ii) seasonal and border workers. This concept also excludes official diplomatic and consular representatives and members of the armed forces of a foreign country. On the other hand, it includes individuals who normally live in the country but are abroad under the same conditions as those described above.

(b) Classification

39. In the revised SNA two main groups of agents are considered: one is related to flows of goods and services and is applicable to the production, consumption expenditure and capital formation accounts; the other is related to financial flows and is applicable to the income and outlay and capital finance accounts.

40. The first group of agents is divided according to the manner in which they participate in production and their utilization of goods and services into the following categories: (i) industries, (ii) producers of government services, (iii) producers of private non-profit services to households, (iv) domestic services, and (v) households as consumers.

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10/ The particular problems which, in general, the definition of residence involves may be seen in detail in United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., paragraphs 5.103 to 5.111.

/41. The

41. The first four categories mentioned consist of production units, which are also called activities or producers proper, and are characterized by constituting the centres of activity in which production decisions are generally adopted and implemented. They are divided into sectors and sub-sectors in accordance with ISIC.11/

42. The most suitable statistical unit in this type of aggregation is the establishment (or equivalent establishment-type units), since it enables the agents in relatively homogeneous units to be classified by their nature, cost structure and production technology, and production activities of households to be separated from their activities as consumer units. Accordingly, this classification is known as a classification by establishments.

43. The second group of agents comprises financing units, i.e., those in which decisions on the financing of current and capital expenditure are adopted. These units are divided into the following institutional sectors: (i) non-financial enterprises (corporate and quasi-corporate), (ii) financial institutions, (iii) general government, (iv) private non-profit institutions serving households, and (v) households, including non-financial unincorporated enterprises.

44. This part of the system enables transactors to be presented in the capacity of receiving and paying income, and owning and administering all forms of property. The observation units most advisable for the purpose are institutional units, which should be divided into sectors and sub-sectors in accordance with the objectives of their establishment, mode of behaviour and financial practices.12/ This type of classification is also recommended because the differences in these respects between non-financial enterprises and financial institutions also relate to their main kind of economic activity.

45. The category of producers known as industries comprises: (i) all public and private establishments and similar units whose activities are financed by means of the production of goods and services for sale on the market at a price normally intended to cover their production costs; (ii) government units engaged in the sale to the public of goods and services which are typical commodities, although for political reasons the prices fixed for the goods and services fail to cover production costs; and (iii) those activities which produce analogous goods or services and employ processes and resources similar to those used by typical industries, although they may not produce for the market, such as ancillary government units, owner-occupied dwellings, subsistence production or own-account consumption, own-account construction or collective construction works.

46. As regards corporate and quasi-corporate enterprises, it is not difficult to determine that the enterprise or legal entity is the observation unit for the institutional classification and that the establishment or establishments of the enterprise are the statistical units for the classification by kind of activity. Where a single owner unit undertakes various types of production, however, the practical possibility of assigning separate establishments for the different kinds of economic activity will depend on the manner in which the enterprises are organized and managed. The problems arising are probably easier to solve when the different kinds of activity of an enterprise operate in different places than when they are located in the same spot.

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11/ United Nations, International Standard Industrial Classification of All Economic Activities, Statistical Papers, Series M, No. 4, Rev. 2, New York, 1968.

12/ See United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., table 5.1, entitled "Definition of institutional sectors and sub-sectors".

47. Public or private unincorporated enterprises producing commodities are separated from their respective owners (the general government as a producer of government services, private non-profit institutions as producers of private non-profit services to households as consumers) and are included in the category of industries together with the production units belonging to the corporations. On the other hand, for the institutional-type classification, unincorporated enterprises are included in the institutional sector of owners, except for those units which are considered as quasi-corporate enterprises.

48. The dual character assigned to the government in SNA should be kept in mind. On the one hand, it appears as another producer which combines factor services and intermediate goods to obtain units of a special type of product called government services (administration, defence, education, etc.) which, in representation of the community, in their turn appear as the collective consumer of those services. On the other hand, the government is also considered as the institution concerned with the allocation of means of financing for these and many other objectives. A similar solution is applicable to private non-profit institutions serving households.

49. Some problems have emerged in the treatment of households, since a dichotomy similar to that encountered in the previous cases may be said to exist, although it is not quite so obvious. Households are shown as a sector in the institutional classification with its respective accounts, but, in contrast, there are no production accounts for households as such. The reason is that, in line with current practice, the demarcation of production in SNA excludes the subsequent processing in households of goods whose purchase is included in final consumption expenditure.13/

50. Not all production activity takes place in corporate enterprises, however; it also occurs in units which are involved in the sphere of households, as in the case of not unincorporated enterprises, farmers, own-account workers, etc., whose production in many countries is considerable.

51. Accordingly, the activities of these households are treated as if they were separate units. In the first place, they are regarded as production units and the respective production accounts for their economic activities are combined with those of establishments of corporate enterprises engaged in the same type of production. Secondly, they are considered as institutional units for all other transactions usually effected by the normal run of households, and the operating surplus of their production activity forms part of the income of the priprietor's household, which is added to other forms of income (such as that deriving from employment, investment, pensions, etc.) so as to facilitate the analysis of household decisions concerning expenditure and saving.

## 2. The accounting structure of SNA

### (a) Presentation of the system

52. The basic purposes of SNA are to reflect all economic flows in an endeavour to show separately for the economy as a whole and the major categories of transactors: (i) the real and financial aspects of transactions in goods and services; (ii) current and capital transactions; and (iii) transactions of resident units and units of the rest of the world.

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13/ See paragraphs 93 to 95 below.

53. The presentation of the revised SNA is maintained on the basis of accounts as such, but their number is reduced to those which describe the basic characteristics of the economic activity and, at the same time, show the main categories of agents, transactions and aggregates, and the network of relationships between them. To that end, the concept of accounts is not limited to the traditional concept of agents' accounts, but has been expanded to introduce another model of statement or account (nominal or fictitious account) which indicates the manner in which the various classifications are related, as occurs in the commodity account.

54. The accounts consist of balanced statements which present the data in the form of a T and conventionally record concepts which originate entries or are sources of income on the right-hand side (credit) and outgoings or uses on the left (debit); moreover, in accordance with the "double entry" principle, the system as such requires that each transaction should be entered twice: once in the payer's account and again in the recipient's account.

55. The system uses five types of detailed accounts for transactors: production, consumption expenditure, income and expenditure (current), capital formation and capital finance accounts. In addition to the accounts for resident units there is an external transactions account which covers transactions with the rest of the world.

56. The summary of these detailed accounts, combined in the case of the separate categories of agents and consolidated for the nation as a whole, constitutes SNA's basic system known as the system of normalized or standard accounts, which synthesizes all aspects in which transactors participate, except for data on balances of assets and liabilities at the beginning and end of each period.

57. These standard accounts are presented in the form of three classes of accounts: Accounts I, which consolidate the transactions of the nation; Accounts II, which contain a breakdown of aspects related to supply and domestic use and production of goods and services; and Accounts III, which are income and outlay and capital finance transactions.

58. The system also comprises statistical tables which describe in greater detail the structure, classifications and aspects of certain accounts, either because the information cannot be shown to advantage in the form of accounting statements or because it is of interest to do so on the basis of a different specific order. Of 26 standard tables presented, 17 contain data at current prices which are used to prepare accounts of the same kind, and the remaining 9 present valuations at constant prices for certain aggregates.

59. For the majority of users, the main content is clearly described in the standard accounts and tables, and for those who wish to acquaint themselves with it fully and systematically, in all its details, matrices have been used. Experience shows that a matrix, together with its sub-matrices, enables an extensive system to be presented in a small space while at the same time the position of each element in it remains clear.14/

(b) Consolidated accounts for the nation

60. The consolidated accounts for the nation are intended to summarize the transactions effected in the economy in such a way as to bring out the main characteristics of the economic conditions and strategic links between their

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14/ See tables 2.1 and 2.17 in United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit.

various facets. In short, they constitute the four basic accounts in which the salient aspects of the process -production, consumption, accumulation and relations with the rest of the world- may be summarized.

61. They are fully articulated accounts and are achieved by consolidating the five detailed accounts related to the functions fulfilled by the transactors (see paragraph 55), and the system closes with the external transactions account. Owing to the characteristic of constituting in itself a closed system, however, and because of the type of aggregate data recorded, it is possible in practice to obtain them independently from the rest of the SNA classes of account.

62. A description is given below of the four standard consolidated accounts (tables 1 to 4), in which the transactions recorded in them are numbered correlatively, and the number of the entry corresponding to the respective counter-entry is noted in brackets. In the following sections the other classes of SNA accounts and their links with these consolidated accounts are described, with special attention to the Class II accounts which are related to transactions in goods and services and constitute the primary motive of the present study of comparability between SNA and MPS. The definition and scope of these transactions are analysed and commented on in the next section, from paragraph 92 onwards.

63. The first account shows the equation of equilibrium between total supply and demand for goods and services, from which it may be deduced that the gross domestic product is equal to final domestic demand (consumption plus investment), plus exports less imports. The second account records national income at market prices and its utilization, that is, the income is calculated through the use of production factors received by the residents of an economy, either through their participation in domestic activity or through their contribution to the production of other countries.15/ The accumulation account reflects the saving-investment identity (net domestic plus net external); finally the last account records current transactions of the economy related to the rest of the world.

64. In these consolidated accounts some flows are shown on an aggregate basis in order to limit the classification of transactions to the most essential distinctions for the general economic analysis. This is true in the case of private final consumption expenditure which, in contrast, in the II and III accounts, is divided into final consumption expenditure of resident households and of private non-profit institutions serving households. For the same reason, the components of value added and of gross capital formation are presented as single items, although in accounts II these flows are calculated separately for each type of producer.

(c) "Product and expenditure" account and "Production, consumption expenditure and capital formation" accounts

65. The "product and gross domestic expenditure" account (see table 1), of the consolidated accounts for the nation, which describes the sources of demand for the product at market prices and the income from factors generated in its production, is obtained by consolidating the II accounts, i.e., the "production, consumption expenditure and capital formation" accounts.

15/ National income excludes other net current transfers from the rest of the world (table 2, item 21).

Table 1

GROSS DOMESTIC PRODUCT AND EXPENDITURE ACCOUNT

| | |
|---|---|
| 1. Compensation of employees (15) | 6. General government final consumption expenditure (12) |
| 2. Operating surplus (17) | 7. Private final consumption expenditure (13) |
| 3. Consumption of fixed capital (27) | 8. Changes in stocks (22) |
| 4. Indirect taxes (19) | 9. Gross fixed capital formation (23) |
| 5. Less: Subsidies (20) | 10. Exports of goods and services (32) |
| | 11. Less: imports of goods and services (-36) |
| Gross domestic product | Expenditure corresponding to the gross domestic product |

Table 2

DISPOSABLE NATIONAL INCOME ACCOUNT

| | |
|---|---|
| 12. General government final consumption expenditure (6) | 15. Compensation of employees (1) |
| 13. Private final consumption expenditure (7) | 16. Net compensation of employees from the rest of the world (33-37) |
| 14. Saving (26) | 17. Operating surplus (2) |
| | 18. Net property income of enterprises from the rest of the world (34-38) |
| | 19. Indirect taxes (4) |
| | 20. Less: Subsidies (5) |
| | 21. Other net current transfers from the rest of the world (35-39) |
| Appropriation of disposable income | National disposable income |

/Table 3

Table 3

CAPITAL FINANCE ACCOUNT

| | |
|---|---|
| 22. Changes in stocks (8)<br>23. Gross fixed capital formation (9)<br>24. Net purchases of intangible and non-financial assets from the rest of the world (44)<br>25. Net lending to the rest of the world (30) | 26. Saving (14)<br>27. Consumption of fixed capital (3)<br>28. Net transfers of capital from the rest of the world (42) |
| Gross accumulation | Gross accumulation financing |
| 29. Net purchase of financial assets (45) | 30. Net lending to the rest of the world (25)<br>31. Net issue of liabilities (43) |
| Net purchase of financial assets | Net issue of liabilities plus net lending to the rest of the world |

Table 4

EXTERNAL TRANSACTIONS ACCOUNT

| | |
|---|---|
| **Current transactions** | |
| 32. Exports of goods and services (10)<br>33. Compensation of employees from the rest of the world (16+37)<br>34. Income from property and enterprises received from the rest of the world (18+38)<br>35. Other current transfers from the rest of the world (21+39) | 36. Imports of goods and services (-11)<br>37. Compensation of employees paid to the rest of the world (33-16)<br>38. Income from property and enterprises paid to the rest of the world (34-18)<br>39. Other current transfers to the rest of the world (35-21)<br>40. Surplus for the nation on current account (41) |
| Current income | Use of current income |
| **Capital transactions** | |
| 41. Surplus for the nation on current account (40)<br>42. Net transfers of capital from the rest of the world (28)<br>43. Net issue of foreign liabilities (31) | 44. Net purchases of non-physical and non-financial assets from the rest of the world (24)<br>45. Net purchase of foreign financial assets (29) |
| Income | Payments |

66. Accounts II record the supply and utilization of goods and services in the commodity accounts and a summarized account of other goods and services;16/ domestic production in the production accounts for each category of producer or activity; and final domestic demand in consumption accounts by type of final consumer and capital formation accounts by category of producer.

67. The present system includes detailed articulated production accounts for the activities of each type of producer, and for the supply and utilization of the total volume of commodities; this procedure is not followed in the case of supply and utilization of other goods and services (non-commodity).

68. The account in table 5 is illustrative of the notes to the commodity accounts. Commodities are defined as the typical or characteristic products of each sector of the classification by economic activity, and the independent accounts for categories of different types of commodities are prepared on the basis of the detailed information available for the industries in which those goods constitute their typical production, and of their ultimate use.17/

Table 5

COMMODITY ACCOUNT

| | |
|---|---|
| Domestic production of:<br>The same branch of industrial activity<br>Other branches of industrial activity<br>Producers of government services<br>Producers of private non-profit services to households<br>Imports, CIF<br>Import duties (net) | Intermediate consumption of:<br>Industries<br>Producers of government services<br>Producers of private non-profit services to households<br>Final consumption expenditure of households in the domestic market<br>Changes in stocks<br>Gross fixed capital formation<br>Exports |
| Supply | Use |

16/ The goods and services normallly destined for sale on the market at a price intended to cover their cost of production are called commodities, and otherwise, other goods and services (not merchandise). For greater details of the definition and scope of these concepts see section 3.(b) of this chapter.

17/ A minimum of six categories of commodities is suggested, namely those of: (i) agriculture, hunting, forestry and fishing; (ii) mining and quarrying, manufacturing, and electricity, gas and water; (iii) construction; (iv) wholesale and retail trade, restaurants and hotels; (v) transport, storage and communications; and (vi) services. United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., paragraphs 8.20 to 8.92.

69. In order that the commodity accounts should form an integral part of the SNA valuation system, trade and transport margins must be treated as different commodities; in other words, the commodities should be valued at producers' prices. It is not proposed that in these accounts net taxes on commodities should be separated from producers' values in order to obtain the basic values envisaged in the system; basic values are recommended for special projects, as, for example, input-output tables. In the case of the external supply of commodities, the CIF value of imports plus the import duties (net) payable on them represents the producers' value of the imported commodities.

70. Recognizing the difficulties found in many countries in valuing accounts at producers' prices, however, the suggestion is to simplify their annual preparation and to base the valuation on purchasers' prices. Purchasers' prices, although they are not part of the system, will prove more suitable when the calculations of the uses of commodities are mainly based on statistics of the various categories of demand and, moreover, will be more useful for the studies on purchasers' practices and behaviour.

71. The operational mechanism of commodity accounts consists in channelling separately the domestic supply of goods and services recorded in the production accounts, and external supply in the external transactions account, in order to reclassify the commodities and distribute them among the accounts of the various users according to their destination and use.

72. As to other goods and services -as noted in paragraph 67- their total supply and use is not recorded, this being done only in the case of the output that has been traded (see table 6). Most of the supply of other goods and services (non-commodity) consists of production for use by government services and private non-profit services to households themselves; this output is channelled directly from the production accounts of these producers to their respective consumption accounts.

Table 6

ACCOUNT OF SALES OF OTHER GOODS AND SERVICES AND DIRECT IMPORTS OF GOVERNMENT SERVICES

| | |
|---|---|
| Sales of other goods and services (non-commodity) of producers of government services<br>Sales of other goods and services (non-commodity) of producers of private non-profit services to households<br>Domestic service of households<br>Direct purchases abroad on current account of government services | Intermediate consumption of producers of government services<br>Final consumption expenditure of households in the domestic market |
| Supply | Use |

/73. Among

73. Among the II accounts, note should be taken of the production accounts constituting the basic and initial link, in practical terms, for the preparation of the rest of the accounts, and for the calculation of the main macroeconomic aggregates. These accounts record the domestic production of goods and services and therefore relate to the activity of resident producers and not to the redistribution of resident production factors; the domestic rather than the national concept is used here.

74. The production accounts are divided into four types of accounts which relate respectively to each category of producer. This classification is a basic aspect of the system because of the fundamental differences between the four categories of producers, according to their nature, their function in the economy and the structure of production costs. The account in table 7 is illustrative of the notes relating to industries, and that in table 8 relates to the producers of government services and producers of non-profit services to households accounts.

Table 7

PRODUCTION ACCOUNT OF INDUSTRIES

| | |
|---|---|
| Intermediate consumption<br>Compensation of employees<br>Consumption of fixed capital<br>Indirect taxes net of subsidie<br>Operating surplus | Main production (characteristic products of the relevant industrial activity)<br>Secondary production (characteristic products of other activities) |
| Total input | Gross output |

Table 8

PRODUCTION ACCOUNT OF PRODUCERS OF OTHER GOODS AND SERVICES

| | |
|---|---|
| Intermediate consumption<br>Compensation of employees<br>Consumption of fixed capital<br>Indirect taxes | Services produced for own use<br>Sale of other goods and services (non-commodity)<br>Commodities produced |
| Total input | Gross output |

/75. The

75. The substantial difference between the entries in these accounts lies in the fact that industries only produce commodities (goods and services), while other producers basically produce other goods and services (non-commodity) for their own use. Commodities are valued at market prices in the producer establishment, while the value assigned to other goods and services is equivalent to the explicit production costs and, therefore, the production accounts of other producers, by definition, contain no operating surplus.

76. The other type of production account is that of domestic services mutually rendered by households (for example, the services of a maid, cook, nursemaid, companion and gardener). These services are classified as other goods and services (non-commodity) and the production costs consist only of compensation of employees, there being no capital formation in this type of production.

77. The difference between the gross output of producers over a specific period at producers' prices and its intermediate consumption at purchasers' prices represents each production unit's contribution to the gross domestic product at producers' values, i.e., its value added.

78. The other aspect contemplated in the II accounts is the structure of final domestic demand by type of user, through the consumption and capital formation accounts.

Table 9

ACCOUNT OF FINAL CONSUMPTION EXPENDITURE OF GOVERNMENT SERVICES AND PRIVATE NON-PROFIT SERVICES TO HOUSEHOLDS

| Services produced for their own use | Final consumption expenditure |
|---|---|
| Supply | Use |

79. An account is established for each type of final consumer in order to record and analyse the composition of consumption expenditure. The account in table 9 is illustrative of the accounts of the final consumption expenditure of the general government and private non-profit institutions serving households. The account in table 10 is illustrative of the household account.

80. These consumption expenditure accounts of the system not only make it possible to represent a complete form of supply and utilization of goods and services for that purpose, but also show the transformation of services classified by kind of economic activity which are produced by government and private non-profit producers for their own use (debit) in their final consumption expenditure classified by the main object (i.e., purpose) they satisfy (credit). The household account has a similar purpose and, moreover, links the expenditure of resident households with the supply of goods and services in the domestic market and direct purchases abroad.

/Table 10

Table 10

FINAL CONSUMPTION EXPENDITURE OF HOUSEHOLDS ACCOUNT

| | |
|---|---|
| Final consumption expenditure of households in the domestic market<br>Direct purchases abroad by resident households | Final consumption expenditure of resident households<br>Direct purchases in the domestic market by non-resident households |
| Supply | Use |

81. The capital formation accounts -provided for in SNA, but not explicitly designed in the system of accounts- are intended to record transactions in goods and services related to fixed capital investment and changes in stocks. These accounts are developed according to the kind of economic activity of the producer sector owning the goods, and the values at users' prices are calculated in gross figures. Gross capital formation is classified by the economic sector of origin of the goods and services (debit) and the type of assets (credit).

82. The operational mechanism for the consolidation of the II accounts involves suppressing the entries of those transactions which in fact cancel each other out since they are shown simultaneously on the debit and credit side (or vice versa) of two accounts of this same group or class of accounts. Hence, there remain only those transactions whose counterparts are found in accounts III and in the external transactions category, the orderly summary of which constitutes the consolidated Gross Domestic Product and Expenditure account for the nation (see table 1).

83. In the consolidated account for the nation, indirect taxes net of subsidies comprise the respective items of the production accounts plus the import duties of the commodity accounts; imports include direct purchases abroad by government services and resident households, and exports consist of direct purchases in the domestic market by non-resident households.

(d) "National disposable income" account and "Income and expenditure" accounts

84. The "National disposable income" account of the consolidated accounts for the nation present the principal ways in which resident transactors receive and distribute their disposable income (see table 2). This account is the result of the consolidation of the income and expenditure accounts prepared for each of the resident institutional sectors forming part of the accounts III.

85. The accounts III relate to the institutional sectors and comprise, in addition to the income and expenditure accounts, the capital finance accounts which are analysed in the next section. SNA does not propose that production accounts should be prepared for the institutional sectors, but their preparation would have analytical and operational advantages. From an analytical point of view, these accounts would prove useful in relating domestic production and the income deriving

/from it

from it with the entrepreneurial structure, forms of property and organization and the technological levels associated with them. Operationally speaking, these accounts would permit a fuller development of the system in presenting the total transactions of each institutional sector and in making more explicit the link between the production account and the income and expenditure accounts, facilitating the appropriation of the operating surplus.18/

86. The items presented in table 11 are illustrative only of the main transactions in current income and expenditure recorded in the respective accounts of the resident institutional sectors. The details shown in the upper part of the table relate to operations which originate in, or are counterparts of, the II accounts and which by their very nature can be only an income or an outlay for some of the institutonal sectors; the list in the centre relates to transfers deriving from income from enterprises or property, transactions related to insurance and redistributive transfers (excluding indirect taxes and subsidies) which will alternately constitute income for one institutional sector and an outlay for another.

Table 11

INCOME AND OUTLAY ACCOUNT

| Outgoings | Incomings |
|---|---|
| Final consumption expenditure | Compensation of employees |
| Subsidies | Operating surplus |
| | Indirect taxes |
| | Property income |
| | Interest |
| | Dividends |
| | Rent |
| Direct taxes | |
| Net casualty insurance premiums | |
| Indemnification of casualty insurance | |
| Social security contributions | |
| Social security benefits | |
| Other current transfers | |
| Saving | |

18/ The solution proposed in the present SNA is exclusively confined to classifying net domestic factor income by kind of economic activity and by institutional sector of origin. United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., table 17.

/87. When

87. When the transactions between resident institutional sectors are consolidated in these accounts, there remain the items in the upper part of the table, and of the items in the centre only those related to non-residents, as may be seen in the consolidated account of table 2. Saving, by definition, is obtained as a result of the difference between current income and expenditure, and is traditionally recorded on the left-hand side of each account with the corresponding sign.

(e) "Capital finance" accounts

88. The "Capital finance" account of the consolidated accounts for the nation and the respective III accounts for the individual resident institutional sectors describe the ways in which capital assets and the internal and external sources of financing are accumulated (see tables 3 and 12). For this purpose, the accounts are divided into two parts: the upper section presents gross accumulation and its sources of financing and the lower section transactions in financial assets and liabilities.

89. The same explanation applies in connexion with the presentation of operations in table 12 as in the case of the income and outlay accounts. Similarly, in consolidating the accounts related to the financing of institutional sectors, the capital transactions between one resident sector and another are cancelled out, there remaining in the consolidating account for the nation only those with the rest of the world (see table 3).

90. Gold and IMF special drawing rights are shown only as a financial asset in table 12, since they are not considered to constitute a liability of any party.19/ On the other hand, transactions in land are not shown as an item in the consolidated account for the nation, because these are operations effected only between residents.20/

91. As regards the entry of financial transactions, it is recommended that incomes and payments in respect of the purchase and sale of the same types of assets, or for the contraction and payment of the same types of liabilities should be indicated in net figures (see paragraph 28). It is further recommended that operations between agents of a particular institutional sector, except general government, should be entered, for which purpose it is proposed that transactions between the various government sub-sectors related to the same flow should be recorded in net, i.e., consolidated, figures.

### 3. Definition and scope of transactions on the supply and use of goods and services and the components of value added

(a) Production boundary

92. The boundary of economic production is, in the first place, directly linked with the scope assigned to resident producers of an economy and the domestic territory, and, secondly, is closely linked with the treatment of some specific transactions.

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19/ Special drawing rights are not included in the SNA manual because they were issued by IMF after the publication of SNA. United Nations, Provisional International Guidelines on the National and Sectoral Balance-Sheet and Reconciliation Accounts of the System of National Accounts, Statistical Papers, Series M, No. 60, New York, 1977, paragraph 5.25.

20/ United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., paragraph 7.84.

Table 12

CAPITAL FINANCE ACCOUNT

| | |
|---|---|
| Changes in stocks<br>Gross fixed capital formation<br>Net purchases of land<br>Net purchases of intangible and non-financial assets (intangible assets)<br>Net lending | Saving<br>Consumption of fixed capital<br>Net transfers of capital |
| Gross accumulation | Financing of gross accumulation |
| Gold and IMF special drawing rights<br>Legal money and transferrable deposits<br>Other deposits<br>Bills and bonds<br>Short-term lending<br>Long-term lending<br>Trade credit and advances<br>Corporate equity securities<br>Other financial items | Net lending |
| Net acquisition of financial assets | Net issue of liabilities plus net lending |

/93. From

93. From a theoretical standpoint, the sphere of economic production should cover the whole range of goods and services which satisfy individual or collective needs. Owing to problems essentially of practical measurement rather than of a conceptual nature, however, the boundary of production activities has been established with respect to market transactions and the practical possibility of in time attaining comparable measurements between all the countries. Accordingly, all market activities are included, and of the unmarketed activities, those which can in some way be quantified and valued.

94. In this respect and in line with current practice the activities of resident producers -who are so defined as to comprise the entire output, and only that, in the domestic territory of a country- do not include domestic activities of members of households involving care of the family group and the use or subsequent processing of the goods acquired. This means that activities such as the preparation of meals, cleaning and maintenance of the household, personal care of children do not form part of production activity. Only goods and services bought for these purposes, including services rendered by domestic personnel, form part of economic production.

95. In other words, the area of economic production excludes the work of the housewife, services of the individual for his own benefit and services provided by durable goods, except housing. On the other hand, SNA provides for the inclusion of subsistence activities which are undertaken by unmarketed households but are similar to activities that would normally be included if carried out in the market (for example, obtaining basic commodities for own consumption).

96. As regards specific transactions, the items remaining outside the economic production boundary e the changes occurring in the value of non-reproducible tangible assets such as land and mines, and in the value of plantations or unharvested crops, owing to their natural growth. The transfer costs of these assets and expenditure on land improvement and the development or extension of mines and plantations are, however, considered as part of economic production.

97. One last aspect which is not explicitly dealt with in the present SNA is the treatment of illegal operations. Previously, it was proposed that production should include only those activities in which incomes are obtained with the free consent of the payer.21/

98. It should be noted that there is currently a marked interest in reviewing these SNA recommendations on the boundary of economic production as regards not only household activities but also environmental goods, natural resources and illegal transactions.22/

(b) Commodities and other goods and services

99. Once the boundary of activities which should be considered as economic or productive has been established, the domestic supply of goods and services originates from the gross output of resident producers.

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21/ In accordance with this definition, black markets would form part of production and the proceeds of robbery would be excluded. United Nations, A System of National Accounts and Supporting Tables, Studies in Methods, Series F, No. 2, Rev. 2, New York, 1964, paragraph 35.

22/ United Nations, Statistical Commission, Guidelines for future work on SNA (E/CN.3/541), 5 August 1980, paragraphs 24 to 39.

100. In accordance with the characteristics of each category of producer related to the nature of the production process and the way in which production is financed, goods and services are classified as commodities (goods and services normally intended for sale on the market at a price that covers their cost of production) and other goods and services (non-commodity).23/

101. Therefore, commodities are defined as including the entire production of goods and services marketed -whether on the monetary or barter market- and also the unmarketed output of certain activities which are obviously similar to those normally carried out by enterprises. In this respect, it is necessary to extend the area of commodities to include goods and services which, although not sold on the market, are similar in all essential respects to the goods and services offered on it. As examples of unmarketed commodities, mention may be made of agricultural production for own consumption, dwellings occupied by their owners, production traded between establishments of an enterprise, and own-account manufacture of fixed assets.

102. Commodities therefore include all goods and services produced by industries (see paragraph 45), all imported goods and services (except direct purchases abroad by government services on current account and by households) and that portion of the gross output of government services and private non-profit institutions serving households which is sold under the typical conditions prevailing for the sale of commodities.

103. In contrast, other goods and services (non-commodity) comprise goods and services which are not normally sold on the market at a price intended to cover their cost of production. These goods and services consist of the major part of the gross output of producers of government services and private non-profit services to households, domestic services rendered by one household to another and direct purchases abroad by households and on current account by government services.

(c) Gross production

104. Gross domestic production over a specific period comprises all goods and services -commodities and other goods and services- produced during the period concerned; it includes activities in process, but excludes normal production losses.

105. The production of commodities is valued at producers' prices, that is, at the market value prevailing in the producer's establishment, not including the cost of services involved in the distribution of goods provided by third parties. The producers' values should be based on the sales prices of products against immediate cash payment, less reductions and other discounts. Tips are considered as payment for services and are therefore included in the producers' values of the respective activity, as part of the compensation of employees. Of the extra charges for credit sales, the cost of the service of administering the credit should be included and the relevant amount of interest excluded. The producers' values of other goods and services is equivalent to the explicit production costs.

106. Some particular aspects concerning the scope of production and the valuation criteria established by SNA should be noted, mainly with a view to their comparability with MPS.

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23/ Although this distinction is a basic feature of the present SNA, in practice very few countries seem to make the distinction as specified. United Nations, Review of the implementation of the revised system of national accounts (E/CN.3/507), New York, 12 May 1978, paragraph 45.

107. Own-account production for consumption by households comprises subsistence production of basic commodities (namely, of agriculture, hunting, forestry and fishing, and extractive activities), and their processing with a view to obtaining such items as butter, cheese, flour, wine oil, fabrics or furniture. These products should be valued at the market prices prevailing in production units and, when none of their output is sold, at the producers' prices closest to those of similar products.

108. The total rent of dwellings occupied by their owners, which should be included in gross production, is determined, in principle, by the market value of rent for dwellings of the same type. Imputed gross rent of family dwellings which are provided free to wage-earners and military personnel is given the same treatment.

109. The own-account production of fixed assets comprises the construction of buildings, highways and other similar projects, as also equipment, tools and other means of production which have an expected useful life of over one year. In principle, these goods should be valued at producers' prices of the same commodities sold on the market; should there be any difficulty in comparing them with similar goods, they are valued at the explicit costs incurred.

110. Goods and services which are produced and supplied by the producers free of charge or at a reduced price to their workers, and which are clearly and primarily of benefit to the workers as consumers, should be recorded at the cost of manufacture and included in gross output and in the payment of wages and salaries in kind.24/

111. The value of the gross production of trade services comprises only the value of the gross margins applicable to sales of goods on the same terms as those on which they were purchased. In contrast, restaurants, cafés and other similar services are given the same treatment as establishments producing goods and, therefore, the gross production value includes the cost of the food and beverages they sell.

112. The production value originating in transactions in second-hand goods, scrap materials and existing assets (including land and intangible assets) is equivalent to the trade margins and other transfer costs. On the other hand, the scrap and waste materials obtained as by-products of the current manufacture of commodities are included in the gross production for the period in terms of their total sales value.

113. The gross production of banks and similar financial institutions includes, in addition to the commissions actually received, an imputed commission for services equal to the property income they receive in respect of loans and other investments of deposits in excess of the interest paid to depositors.

114. In the case of insurance companies and pension funds, only a proportion of the gross premiums received is included in gross production as commission or an

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24/ The manufacturing costs refer to real, not explicit, costs, which means that an estimated operati g surplus should be included. United Nations, Handbook of National Accounting (draft) (ST/ESA/STAT.77), New York, 9 May 1975, paragraph 3.60.

imputed charge for the service rendered; the rest of the premiums are considered as payment for the risk involved in contracting the insurance.25/

115. In the present SNA, rent of buildings, structures, equipment, machinery and other goods, except land, is considered as a commodity-type service and the rent received is included in the gross production of industries. Rent of land is considered as income from property.

(d) Intermediate consumption

116. Intermediate consumption of industries represents the full use of non-durable goods and services in the production process. In principle, non-durable goods are those which have an expected useful life of less than one year. The goods should as far as possible be valued at purchasers' prices at the time they enter the production unit.26/

117. Intermediate consumption of producers of government services and of private non-profit services to households comprises purchases of new goods and services on current account, less net sales of similar second-hand goods and their scrap and waste materials.

118. In the case of producers of government services, intermediate consumption includes expenditure on durable goods basically acquired for military purposes. In this respect, SNA is not very clear about the way in which to treat the participation of the armed forces in activities of a purely civil nature, as, for example, the construction of roads and other public works.27/ On the other hand, intermediate consumption of the government does not include purchases of strategic materials and goods which are of importance to the nation, to be kept as emergency reserves, which should be treated as changes in stocks.

119. There follow some comments on the major problems commonly arising in demarcating the scope of intermediate consumption. Expenditure on repair and maintenance designed to keep fixed assets in good working condition is considered as current repairs and classified as intermediate consumption. In contrast, expenditure on important modifications and additions or on the replacement of

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25/ For fuller details of the treatment of insurance and pensions proposed in SNA, see United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., paragraphs 6.36 to 6.40 and 7.53 to 7.55. It should be noted that there is at present some question about the manner of considering net premiums (i.e., not including imputed commission) and indemnifications for casualty insurance in the income and outlay accounts, and those of life insurance and pensions in the capital finance accounts. United Nations, Report of the Expert Group on Future Directions for Work on the United Nations System of National Accounts (E/CN.3/AC.9/5), New York, May 1980, paragraphs 22 and 23, and United Nations, Guidelines for future ... (E/CN.3/541), op. cit., paragraphs 46, 47 and 55.

26/ This form of valuation guarantees that the value of intermediate consumption will equal the costs of replacing the goods when actually consumed, although the difficulties in its practical implementation are recognized. United Nations, Handbook of ... (ST/ESA/STAT.77), op. cit., paragraph 3.69.

27/ United Nations, Report of the Interregional Seminar on the Revised System of National Accounts, held in Caracas, Venezuela, in December 1975 (DP/UN/INT-72-104), New York, 1977, paragraphs 51 and 52.

/elements of

elements of fixed assets which prolong their expected useful life or increase their productivity is considered as capital repairs and is included in gross capital formation. By the very nature of these recommendations, however, it is difficult in practice to apply these criteria in a uniform manner.

120. The cost of maintenance of roads, docks, bridges and other similar forms of construction is considered as intermediate consumption. The reason for applying this criteria is that no fixed capital consumption is imputed in the case of these assets and it is considered that the expenditure on repair and maintenance is sufficient to preserve them in their original state.

121. Expenditure on research, development and exploration activities is not clearly defined in SNA; thus, the individual countries present differences in its treatment according to national practice. In line with SNA, the commodities consumed for these purposes are, in the majority of cases, included in intermediate consumption, except for substantial expenditure on the development and extension of plantations, mines and other similar tangible capital assets which should be treated as gross capital formation.28/

122. The cost of business travel of wage-earners which is reimbursed by the employer is included in intermediate consumption of enterprises. Uniforms and working clothes supplied to civilian employees are considered as intermediate consumption; on the other hand, clothing supplied to members of the armed forces is treated as wages in kind.

123. Expenditure by employers on improving working conditions and on cultural, sports and other similar facilities which benefit both the workers and themselves is dealt with as intermediate consumption, not as compensation of employees in kind.

(e) Gross domestic product

124. The basic measurement in SNA is the gross domestic product at market prices, which is equal to the gross value of production excluding the value of intermediate consumption. This value may be calculated in three ways.

125. One method is to add the value of the final uses of the goods and services, at purchasers' prices, and deduct the CIF value of imports (see paragraph 63). A second calculation consists of adding the original incomes generated by production, i.e., compensation of employees, operating surplus, consumption of fixed capital and indirect taxes net of subsidies. Lastly, the gross domestic product may be obtained through the summation of the aggregate values of each production sector (see paragraph 77), to which import duties are added.

126. As regards the third method, some problems have arisen in connexion with the treatment of the value-added tax. When the SNA was revised, the value-added tax was not yet in general use and, therefore, was not specifically analysed. Today, the countries of the European Economic Community have adopted the criterion of indicating net collections of the value-added tax in the same manner as import duties, that is, as a component of the total gross domestic product, without any sectoral appropriation. This criterion was based on the fact that the value-added tax did not seem comparable with other forms of indirect taxation; against this procedure and in favour of its sectoral appropriation, what is mainly argued is

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28/ United Nations, A System of ..., Series F, No. 2, Rev. 3, op. cit., paragraphs 6.63 and 6.124.

the need for comparability of the national account with countries using other types of indirect taxation.29/

127. The gross domestic product may also be valued at factor cost, i.e., without including the value of indirect taxes in excess of subsidies; another measure used is the domestic income at factor cost, which is the above aggregate less consumption of fixed capital, that is, compensation of employees plus operating surplus.

(f) Final consumption expenditure

128. Final consumption expenditure is classified as final consumption expenditure of resident households, private non-profit institutions serving households and the general government.

129. Final consumption expenditure of households is composed of expenditure on new goods, durable and non-durable, and services, less net sales of second-hand goods and scrap and waste materials. SNA presents two measurements of final consumption expenditure of households based on the concepts of final consumption expenditure of resident households and final consumption expenditure of households in the domestic market (see table 10); however, it is the first aggregate related to the concept of resident households which is consistently linked with the system of accounts and forms part of the expenditure corresponding to the gross domestic product (see table 1).

130. The final consumption expenditures of the general government and the private institutions serving households are equivalent to the value of the services and goods they produce for their own current account use.30/ In each case the value of these is equal to the differences between the value of gross production (equivalent to the value of total inputs) and the sum of the value of commodity and non-commodity sales and the value of own-account fixed capital formation which it is not possible to separate as an industry. (See tables 8 and 9.)

131. SNA's distinction between expense of final household consumption and other final consumption expense is based on the institutional character of the transactors which provide the goods and services in question.

132. When government services or private, non-profit services to households provide goods and services to individuals directly, the items acquired for such activities are always included in the intermediate consumption of these producers, forming a part of their gross output. The payments made by households are classified as purchases of services or goods when there is an evident and direct relationship between the payment and the acquisition of the services or goods, that is, when the amount of the payment is proportional to the quantity and quality of the service or good received, and the decision is voluntary; in such cases, the expenditure is included in final household consumption, e.g., the fees charged by hospitals and

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29/ The document entitled Instructions and definitions for the questionnaire on national accounts, of the United Nations Statistical Office and the Organization of Economic Co-operation and Development (OECD), 1980, suggests that the procedure followed by the European Economic Community be adopted.

30/ The term "own use" used by SNA is not very appropriate, since the services in question actually satisfy home needs or needs of the society as a whole (see paragraph 48).

schools. However, payments made to the general government for services whose major aim is to serve as an instrument of official policy and which are obligatory but inevitable, are considered as current transfers in the unique circumstances in which they are useful; examples of these payments are passport, drivers licence, and judicial fees. In the same way, dues paid to mutual funds, unions or social clubs are considered as current transfers.

133. There are problems of classification in the intermediate consumption of governmental services or final consumption of households when industries or private, non-profit producers supply, directly and individually, services or goods to private parties which are paid for wholly or in part by the general government. If the person who receives the service or good has the freedom to choose the private unit which will provide it and the conditions under which it will do so, the expenditure should be included in total household consumption and the expenditure made by the government is considered a transfer payment to the individual. On the contrary, if the government specifies in detail the conditions and norms, and the person who receives it has few opportunities to make decisions, the purchases of goods and services are classified as intermediate consumption of the producers of governmental services and are included in final government consumption.31/

134. In the case of final household consumption, problems may arise with respect to the goods and services used for dual purposes by professionals and other individual producers in distributing the corresponding expenditures between personal consumption and intermediate consumption and capital formation of the productive activity involved. An example is the use of the automobile, or housing used as lodging or workplace.

(g) Gross formation of capital

135. Gross formation of capital, that is, the increase in stocks and the gross increase in fixed assets during an accounting period, is made up of expenditures by commodity producers which does not enter into the intermediate consumption of the period.

136. Stocks are composed largely of materials and supplies, work in progress (except construction projects) and finished products and goods in the possession of industries. Planted trees and unharvested crops are excluded from stocks, but cut wood and harvested crops are included. Gold ingots and gold coins are considered financial assets, but non-monetary gold is included in stocks. Also included are stocks of strategic materials, grains and other commodities of special importance for the nation in the possession of the general government.

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31/ The application of these SNA recommendations gives rise to different treatment in the expenditure of final consumption among countries according to the ways and means of supplying the services, including variations within the same country if there are changes in the conditions of the services in question.

/137. Gross

137. Gross fixed capital formation includes expenditures of industries, of producers of government services and of private non-profit institutions serving households, on commodities to increase their fixed assets, less their net sales (sales minus purchases) of similar second-hand and scrap goods. These commodities may be bought or produced on their own account. These include: (i) purchases made by producers for civil use of durable goods (that is, goods with a useful life of one year or more), except land, mineral deposits, woods containing useful timber, etc.; (ii) expenditures on improvements and changes in durable goods which markedly prolong the foreseeable useful life or productivity; (iii) expenditures on building up and improving soil and land and on the development and expansion of woods containing useful timber, mines, plantations, orchards and other similar agricultural operations; (iv) trade and transport margins and other transfer costs with respect to the purchase (sale) of fixed second-hand assets, and (v) amounts charged for services and other transfer costs in transactions on land, mineral deposits, woods containing useful timber and similar non-reproducible assets and intangible and non-financial assets. Excluded from gross fixed capital formation are the expenditures of the general government on construction projects and other durable goods designed principally for military use.

138. The commodities which constitute the gross fixed capital formation for the nation as a whole are new goods produced in the country and new and second-hand imported goods. Among the imports of a country are included the expenditures made in other countries by embassies, consulates and other extra-territorial establishments of the government of that country on fixed transportable and non-transportable assets, except for its net sales of goods such as second-hand and scrap material. Similarly, the net expenditures of embassies, consulates and other foreign diplomatic bodies situated in a country on fixed assets produced in the country will be recorded in exports and not in gross fixed capital formation of the country. Fixed capital expenditures of international bodies located in the country are treated in the same way.

139. There are problems in distinguishing between the increase in stocks and the gross fixed capital formation, during an accounting period, for the machinery and heavy equipment, structures and other forms of construction which are produced on request and whose termination requires a long period of time. Whereas the part of unfinished equipment or heavy machinery completed during an accounting period will be accounted for as an increase in the stocks of the producer of the goods, the finished part of structures, highways, dams, ports and other forms of construction will be included in gross fixed capital formation of the unit for which the construction is carried out.

140. There are also problems of distinguishing between stocks and fixed assets for stock raising. Stock for breeding purposes, draught animals, dairy and wool stock should be classified in principle as fixed capital assets. The remaining stock should be considered as forming part of stocks.32/

141. In principle, the value of the increase in stocks corresponds to the value of the tangible variations during a given period measured at current market prices in effect at the time when the incomings and outgoings occurred. The incomings and outgoings of stocks should be valued at purchasers' prices when they are obtained

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32/ This distinction is difficult to apply, and many countries consider it impractical and insignificant. United Nations, Future Directions for Work..., E/CN.3/541, op. cit., paragraph 45.

/from other

from other economic agents, or at producers' prices when they come from the production itself. In practice, the best possible approximation may be the difference between the levels of these stocks at the beginning and end of the period, both valued at approximate average prices in effect during the period.

142. Gross fixed capital formation is valued at purchasers' prices, including all costs directly related to the acquisition and installation of the goods for their use, but excluding the indirect expenditures of financing the acquisition of fixed assets. The production of own-account fixed assets should be valued at the market prices of similar commodities and, in the case of difficulties, at the explicit cost of production.

(h) Exports and imports of goods and services

143. Exports and imports of goods and services consist of the transactions made in this respect by the residents of a given country with the rest of the world. These transactions include exports and imports of commodities, transport services, communications, insurance and diverse goods and services.

144. In practice, exports and imports of goods generally coincide with commodities registered in the statistics of international trade across the customs border of one country, and of other goods and services across the borders of its interior territory, including in exports the direct purchases in the domestic market by non-resident households and in imports the direct purchases abroad by resident households and government services.

145. For exports of commodities, their FOB value is considered at the customs border of the exporting country, and for imports their CIF value at the customs border of the importing country.

(i) Remuneration of employees

146. The remuneration of employees includes all payments of wages and salaries made by resident producers to their employees in money and in kind, and the contribution paid or imputed in favour of these employees to social security, private pension funds, family allowances, casualty insurance, life insurance and similar schemes. The imputed contribution is calculated when the employer pays directly to its workers the social benefits (pensions, family allowances, etc.) without participating in or establishing a fund or special reserve for such purpose.

147. Wages and salaries are all the payments which employees receive for their work, both in money and in kind, before deducting their contributions to social security, taxes withheld and other similar deductions. Wages and salaries should be recorded by deducting any purchase of work tools, equipment and special clothing which the workers are obliged by contract to contribute on their own account, and those reimbursements which are made to the employees for travel, per diem and other expenditures they incur when carrying out activities on behalf of their employers. Included in wages and salaries are other payments such as commissions, trips and bonuses, cost of living adjustments or other benefits related to vacations, holidays, sick leave and other relatively short periods of leave from work, when the employer pays them directly; the stipends paid to ministers of religion and members of boards of directors; and the cost for employers of food, lodging and usual clothing, including the uniforms of the members of the armed forces, etc., which are provided free or at a reduced cost to employees.

148. Employees are all those persons dependently employed in activities of enterprises, government bodies and non-profit private institutions, except owners

/and non-paid

and non-paid family members in the case of unincorporated enterprises. Domestic servants and members of the armed forces are included, whatever the duration and class of their services.

149. As the remuneration of employees includes employers' contributions on behalf of their workers (paid or imputed), the amount under these headings appears as an income in the household income and outlay accounts and is simultaneously recorded as an outgoing (expenditure) of the employers. In other words, the contributions to social security will appear in the income and outlay account of the government -or of the institutional sector which directly pays the benefits, in the case of imputed contributions- as an income by current transfer from households, although households do not actually receive such income or make such payments.

150. Although there may be no specific transactions in goods and services, because of their close relationship with the aspect mentioned in the previous paragraph it is of interest to comment on the SNA approach to the transactions of pension funds and life insurance. In these cases, SNA's approach of considering that retirement benefits and life insurance pensions received by households represent a change in the form of the assets of the same, and not an actual flow of income is open to question.33/

(j) Consumption of fixed capital

151. The consumption of fixed capital may be defined in general terms as the part of the gross product which is required to replace the fixed capital used up in the process of production during the accounting period. This flow is based on the concept of the foreseeable economic life of each asset, and its purpose is to cover the loss of value due to the foreseeable obsolescence and normal accidental damage which cannot be repaired, as well as normal wear and tear. Unforeseen obsolescence is considered as a capital loss rather than consumption of fixed capital.

152. The consumption of fixed capital is valued at the cost of replacement and includes reproducible fixed assets, with the exception of the infrastructure work of the general government on highways, dams and other forms of construction other than building. (See paragraph 120.) Provisions regarding the depletion of fungible natural resources do not form part of the consumption of fixed capital.

(k) Indirect taxes and subsidies

153. Indirect taxes are taxes charged to producers in relation to the production, sale, purchase or use of goods and services, which are to be charged to production expenditures. Typical examples of indirect taxes are import, export and consumption duties, sales taxes, taxes on theater performances, trade licences, and title fees. Also included are taxes on the value added and on the use of labour and fixed assets, registration fees (licences) of vehicles, driving examination and licence fees, passport and airport use taxes, judicial fees and other similar services paid by producers.

154. In principle, the operating surplus of the fiscal monopolies of the government, once the normal profit margins of the entrepreneurial units have been deducted, is considered as an indirect tax, since at least this part of the operating surplus will be used to increase fiscal income.

155. Subsidies include all the own-account donations made by the general government to private industries and public corporations. They are transfers which, taking into account the basis on which they are made, constitute additions to the income of producers as a result of their current production. Also included are donations made by public officials to commodity-producing units of the general government to

33/ See footnote 25.

/compensate for

compensate for operating losses, when these losses are clearly due to government measures taken to maintain prices at a level below the cost of production.

### 4. Other aspects of SNA

156. Input-output tables are an integral part of SNA. The data necessary to draw up these tables are included in the accounts for commodities, production, consumption expenditure and capital formation and the corresponding complementary support tables. The analytical and practical application aspects of this subject have been analysed separately in a United Nations publication.34/

157. The accounts which refer to the national and sectoral balances and the revaluation of the assets and liabilities of the institutional units constitute an integral part of the system of accounts. The SNA manual includes the location, structure and basic concepts of this subject within the system, but it does not contain concrete definitions and classifications, standard accounts or support tables. The detailed international guidelines for this purpose were published later in a special document.35/

158. The recommendations made in the publications mentioned refer to the balance sheet accounts of the institutional units and reconcile the opening and closing entries of assets and liabilities with the current transactions recorded in the capital finance accounts. The statistics relative to the stocks of capital goods used by the establishment-type units, which are important for studying and analysing questions such as production capacity, capital inputs and the relationship between capital and product, are examined in another United Nations document.36/

159. The possibilities for extending the statistics referring to households, and the prolongation and expansion of SNA, are contained in another publication of the Organization.37/

## C. System of Balances of the National Economy (MPS)

### 1. Spheres of the national economy 38/

160. To analyse the basic characteristics of MPS it is important to note, first of all, that this system divides the national economy into two spheres, on the principle that all the multiplicity of the forms of economic activity in the national economy of a country may be reduced to two principal groups of spheres: the material production sphere and the non-material or service sphere.39/

161. The field of productive activities is limited to material production, which is primary with respect to the sectors of human activity rendering services. The production of material goods is the sphere where the product and income of the society are created, while in the non-material sphere neither product nor income

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34/ United Nations, Problems of Input-Output Tables and Analysis, Studies in Methods, Series F, No. 14, Rev.1, New York, 1974.

35/ United Nations, Provisional International Guidelines..., Series M, No. 60, op. cit.

36/ United Nations, Guidelines on Statistics of Tangible Assets, Series M, No. 68, New York, 1979.

37/ United Nations, Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households, Series M, No. 61, New York, 1977.

38/ United Nations, Basic principles of..., Series F, No. 17, op. cit., summary of paragraphs 1.4 to 1.10.

39/ This division is of major importance for the comparability between SNA and MPS and practically constitutes the central factor determining the basic difference between the two systems which is analysed in the following chapters.

/is created,

is created, because there is simply a verification of the process of utilization and redistribution of material goods and incomes created in the material production sphere.

162. The productive character of the labour serves as a criterion to define the material production sphere. By productive labour is meant the labour which is used in the production and circulation (transport and trade) of goods. The final results of these activities are material goods designed to provide the society with means of production and consumer goods.

163. Material goods are the reproducible result of the labour employed in the transformation of the materials and forces of nature into materially given objects suitable for satisfying personal and collective needs; that is, the objects on which the labour acts are natural material and forces. However, services -although they also satisfy individual and collective needs- are the result of an activity which is not incorporated into the material product since, on the one hand, the object to which the labour is applied is man himself and, on the other hand, the time of offering and using services is the same. In other words, services only exist at the time of their rendering.

164. In principle, the classes of activities included in the material sphere, according to the ISIC divisions, are agriculture, hunting, forestry, fishing, mining, manufacturing industries, construction, electricity, trade, restaurants, transport and communications. In the non-material sphere are included services of housing, education, health finances, public administration and other commmity, social and personal services.40/

165. By definition, only transport of goods and communications which serve the branches of material production belong to the material sphere. However, for practical reasons, all transport and communications activities are included in the material sphere.41/ On the other hand, in the service-producing sectors, which in principle are totally included in the non-material sphere, there are certain activities which are considered material, such as for example the production of cinematographic films. This subject is analysed in more detail in chapter III.42/

166. It should be clarified that the activities which occur in the family units, because of the need to adapt the products to private consumption, are outside the area of economic activities. The household is a consumption unit whose incomes are formed outside its environment, either as a result of the process of primary distribution or as a result of the process of redistribution, and consequently they do not contribute to the creation of national income. The activities corresponding to consumption within households of the population are the following: housecleaning, preparing of meals, washing of clothing, sewing and cleaning of clothing, common repairs of furniture and other household goods, etc.43/

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40/ The MPS classification by economic sectores figures in paragraphs 186 and 187.

41/ United Nations, Basic principles..., Series F, No. 17, op. cit., paragraphs 2.38 and 2.42.

42/ In the specific case of Cuba, the detailed list of the ISIC activities considered as non-material is found in table 32.

43/ United Nations, Basic principles..., Series F, No. 17, paragraphs 1.10 and 1.28.

## 2. Economic agents

### (a) Territorial (domestic) and nationality criteria

167. In the system of balances of the national economy, the economic relations between a given country and foreign countries (the rest of the world in SNA terminology) are classified under two principles.

168. According to the first approach, called the territorial or domestic criterion, the domestic economy corresponds to the activities of the economic units which are established in the territory of a given country, including, as an exception, the activities developed outside the borders of a State by the naval and air fleets of the nation, fishing fleets in neutral waters, etc., while the foreign economy would include the activities of the economic bodies which are established outside the borders of the country.

169. According to the second principle, called the nationality criterion, national domestic units are those units which carry out an economic activity in the territory of the country, as well as the enterprises and organizations of a given country which operate outside its borders. The same qualification applies to citizens who reside abroad, whether they do so as tourists or for official reasons.44/

170. Although there is no explicit reference in MPS to the concept of resident unit, the application of the criterion of nationality is similar to the concept used by SNA to classify transactors as resident or non-resident units. However, in MPS, for practical reasons, only the domestic criterion is used in principle.

171. It should be noted that MPS considers embassies, consulates, etc., and international organizations as resident units in the countries where they are located. On the other hand, in some cases the currency in which the payment is made is the criterion for distinguishing resident units from non-resident ones; for example, the transactions in the national market against payment with foreign currency are considered as transactions with non-resident units.45/

### (b) Units of the domestic economy

172. The economic activity is carried out in primary units of the social division of labour which are economically independent, that is, they are organized units of production, with MPS distinguishing the following groups or types of economic units: enterprises, financial institutions, associations, government units and economic units of households.

173. Enterprises are dedicated to non-financial activities and cover their ordinary expenditures with income coming mainly from the sale of goods and services. They are independent bodies which have their own bank accounts and have a complete accounting system. Production co-operatives (agricultural and others) are classified as enterprises.

174. Financial institutions include government banks, credit institutions, savings banks, insurance companies and other financial institutions.

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44/ United Nations, Basic principles ..., Series F, No. 17, op. cit., paragraph 1.124.

45/ United Nations, Comparisons of the system ..., Series F, No. 20, op. cit., paragraph 3.8.

175. Taking into consideration the dual function of the government, MPS also makes distinctions between the two. On the one hand, units which render services or produce goods (for example, own-account investments) are considered budgetary units and correspond to the producers of government services in SNA terms. On the other hand, when the government operates as a receiver of income and makes expenditures it is considered as a "pool of assets" into which incomes flow and from which expenditures are made. In this latter sense it is separated into: (i) government, which generally covers the State budget; (ii) social security, from which the social benefits are paid to the population and to which income to cover them flows, and (iii) special extrabudgetary funds, which receive incomes from other units (mainly from enterprises) as a part of the process of redistribution (transfers) and finance projects or special programmes which are generally controlled by the ministries (for example, funds for technological development).

176. Associations are units which receive income from their voluntary members, from the government as redistribution payments (subsidies) or from enterprises and co-operatives. These are considered as budgetary units.

177. Households are also considered in the dual nature of the functions they carry out. Households as receivers of income and consumers are outside the limit of economic activities (see paragraph 166) and in this sense are grouped under the term population. On the other hand, in relation to activities which develop within the field of economic activities, MPS distinguishes the following groups: (i) small private enterprises (non-co-operative), and (ii) personal private plots and economic activities of households. The first group includes private farms, which usually are treated separately, and small units similar to enterprises, which are officially registered (for example craft enterprises, shops). The second group includes personal household plots (including those belonging to members of co-operatives) and other economic activities of households in the own-account production of material goods and non-material services, such as owner construction of housing and raising of stock for own-account consumption.

178. Household transactions related to economic activities are always considered separately from transactions which are part of the population sector. That is, the incomes and expenditures from these economic activities are recorded separately in units considered similarly to the establishment-type units; the surplus resulting from their operating incomes and expenditures are recorded as a distribution of incomes of these establishment-type units to the population sector. This approach is similar to that applied by SNA for the units which are called unincorporated enterprises: as units of production they are included in the material balance, and as an institutional sector -in the SNA sense- in the financial balance (see paragraph 199).

179. This distribution of the national economy into groups of organizational units is not used directly as a classification in the balance of the national economy; that is, the grouping of economic activities into spheres and sectors of the national economy is not done by integrally assigning the different organizing units (enterprises, institutions, etc.) to the corresponding sphere of activity and sector of the national economy, but rather according to a uniform type of economic activity.

180. For this reason, by defining the units of classification, MPS tries to form units for separately recording the different classes of economic activities as broadly as possible with the corresponding information. In this respect, when any organizing unit carries out various non-homogenous activities, it is considered to be composed of two or more accounting units related, respectively, to the

/corresponding economic

corresponding economic spheres and sectors. Thus, if an enterprise, institution, co-operative or any other organizing unit has important secondary activities, these should be considered as establishment-type units different from the main establishment.

181. This division is normally made when the isolated forms of activity correspond to another sector of the national economy, different from the sector to which by its purpose or principal activity the enterprise or institution belongs, and also moreover when this isolated activity has an especially important function and enough separately detailed information. This usually occurs in cases of own-account subsidiary industrial production, agriculture, or construction carried out by enterprises and institutions whose principal activity corresponds to other sectors of the national economy. In addition, included in this division are those forms of non-productive activity corresponding to the satisfaction of individual needs of the members of the society.

182. In cases of budgetary units, associations and economic activities of households, the application of this criterion results in the formation of establishment-type units. However, in cases of enterprises and co-operatives this situation is less frequent, since these units generally are largely organized in accordance with the type of principal activity to which they are dedicated.46/ These units may thus be called enterprise-type units which, in principle, do not strictly correspond to SNA's concept of establishment, but which are similar in practice, since -as mentioned above- in the majority of cases they are dedicated to one single type of activity. The case of agriculture is an exception, where the type of information available allows it to be classified by establishments.

183. In the countries which apply MPS, there are generally also statistics for establishments which do not offer sufficient information to make it possible to compile all the categories of the system. On the other hand, in different fields of basic statistics (for example, investments, industrial statistics), enterprises, co-operatives and financial institutions are classified in accordance with their principal activity, although these are not taken into account in MPS.

184. In brief, in MPS the units of observation for purposes of classification by economic sectors are: (i) enterprise-type units which correspond to independent units of enterprises and co-operatives, with the exception of those dedicated to agricultural activities and financial institutions, and (ii) establishment-type units, which include enterprises and co-operatives of agriculture, budgetary units, associations and economic activities of households.

(c) Classification

185. The primary units analysed previously are grouped and classified in the balances of the system in two ways: (i) by (economic) sectors of the national economy, in accordance with the principal activities of each sphere, and (ii) by socio-economic sectors, basically in accordance with the ownership of fixed capital and circulating capital. The type of ownership which is exercised over the means of production determines the type of ownership of the production and income generated by its utilization.

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46/ United Nations, Comparisons of ..., Series F, No. 20, paragraph 2.35.

/186. In

186. In the material sphere the following economic sectors are included:47/
Industry
Construction
Agriculture
Forestry
Transport
Communications
Trade
Other branches of material production.

187. The activities corresponding to the non-material sphere are grouped into the following sectors:
Housing and public and community services
Education, culture and art
Health services, social welfare and sports
Science and scientific services
Finance, credit and insurance
General government
Other branches of the non-material sphere.

188. The sectors of the non-productive sphere are divided into two groups according to the function carried out in the society by the services created within them. In the first groupthere are three primary sections, as mentioned in the previous paragraph, whose services are designed to satisfy the personal needs of the members of the community. The second group includes the remaining sectors which satisfy general, indivisible needs of the society.

189. The division of the branches of the non-material sphere into two groups was made because certain forms of activity, consisting of the rendering of services, satisfy only the individual needs of the members of the community separately, and should be taken into account in determining the standard of living of the population. However, another considerable variety of services satisfy collective needs, attempting to secure the necessary conditions for the life of the society as a whole. Various sectors of the non-productive sphere also provide services to the material sphere of production (for example, banking services).

190. The second classification, that is, by socio-economic sectors of the economy, is based on the fact that the elements or basic characteristics of the development of the economy are determined largely by the social structure of the community. This classification includes two major divisions: the socialist sector and the private sector.

191. The socialist sector includes the enterprises and institutions which are socialist, collective property. The fixed and circulating capital of these units is public property. In the socialist sector are also included personal plots belonging to employees and members of co-operatives.

192. The following socio-economic subsectors are included in the socialist sector: State subsector; co-operative subsector, which includes particularly agricultural production co-operatives; associations subsector; subsector of personal plots of workers and employees, and subsector of personal plots of members of co-operatives.

193. The State subsector includes the enterprises and institutions which are State property. These economic units are endowed by the State with the fixed and circulating capital necessary for their operation, and they depend administratively

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47/ See the definition and scope of these activities in United Nations, Basic principles ..., Series F, No. 17, paragraphs 2.12 to 2.53.

on central or local government bodies. The production and income generated in the State subsector are the property of the population as a whole.

194. The co-operative subsector includes the enterprises and institutions which are the collective property of a group. The fixed and circulating capital of these economic organizations is formed by the initial contributions and dues of their members, to which is added part of the operating surplus of the same. The production and income of the enterprises and institutions of the co-operative subsector are the property of its members.

195. The associations subsector includes the enterprises and institutions which are the property of voluntary or semi-voluntary associations. The fixed and circulating assets of the economic organizations of this subsector are made up of the voluntary contributions of their members and of part of the operating surplus of the enterprises and institutions depending on them. The production and income of this subsector belong to the associations.

196. The subsectors of the personal plots of employees and of members of co-operatives include activities related to the production of agriculture, construction and other types of activities (harvesting of wild fruits, scrap iron, etc.).

197. The private sector includes the enterprises and institutions whose fixed and circulating capital is private property. The classification of the enterprises and institutions by subsector of the private sector is done, in practice, on the basis of the concrete economic conditions of the country considered. This sector should distinguish, by subsector, craftsmen of all types and peasants who are not members of co-operatives.

198. Peasants and craftsmen of all types not grouped into co-operatives constitute small private economies, in which, the owners themselves generally carry out the productive process, without contracting wage workers. In this group are also included subsistence activities of the population employed in the private sector of the national economy.

199. It should be clarified that the term population is used as a unit which is a consumer of material goods and services in the material balance, an institutional factor in the financial balance and an owner in the balance of assets. On the other hand, designations of government, social security and special extrabudgetary funds only appear in the financial balance in relation to redistributive (transfer) payments.

### 3. The accounting structure of MPS

#### (a) Objectives and presentation

200. The main objectives of the MPS structure are essentially the same as those of SNA, with the important addition that MPS, on the one hand, makes a distinction between productive and non-productive economic activities, and on the other hand limits the scope of the production to material activities, considering only the latter as productive. These objectives consist of: (i) reflecting in the economic flows of goods and services the flows related to the material and financial aspects, including the transactions related to non-material services; (ii) distinguishing the transactions between national units and foreign units, and (iii) ensuring the relations among flows, and between flows and balances.

/201. The

201. The MPS presentation is carried out by using balances, which consist of a set of interdependent tables, each of which describe a given aspect of the economic process and which, taken together, give a complete and detailed description of the characteristics of the economy. In the balances the items are interrelated and thus make a connexion between transactions and form an integrated system called the System of Balances of the National Economy. In practice, this system is usually called the Material Product System, a name which is also used in this document to refer to the system as a whole. However, when aspects or categories referring to a given balance of the system are discussed, there are references to the specific balance.

202. The system contains four principal schemes or sections, called balances, each one of which includes a basic table (the balance itself) and various supplementary tables which are used to present greater detail on concrete aspects of the respective basic table. The four schemes are the following:

(i) Balance of the production, consumption and accumulation of the global product, generally called the material balance.

(ii) Balance of the production, distribution, redistribution and final disposition of the global product and the national income, generally called the financial balance.

(iii) Balance of manpower resources.

(iv) Balance of fixed assets and indicators of the national wealth.

203. The process of production of the global product has a dual nature; on the one hand, it appears as a flow of material goods and, on the other, as a flow of income or monetary flow.48/ These two aspects are distinguished as follows: the material balance records the global product from the physical point of view, that is, in its material (tangible) form, while in the financial balance the objects of study are the incomes and expenditures, that is, the value (monetary) aspect.

204. The third division shows the supply and disposition of manpower resources available to the society and their distribution among the economic and socio-economic sectors of the national economy. The fourth division describes the national wealth of the society, which includes the fixed assets, circulating material means, stocks and reserves. This section of the balance also serves to analyse the indicators of the distribution and utilization of the national wealth.

205. Most of the tables presented take the form of double entry tables in order to show, in cross classifications, the existing relationships between the structure of a given aggregate and the different sectors of the economy, or the relationships which exist for one concept in particular between the economic and socio-economic sectors.

206. It should be noted that although the system does not, in its formal presentation, contain a conceptual matrix which integrates its parts, this may be obtained without great difficulty by combining the different basic balances and supplementary tables. In some countries which use MPS, matrixes have been developed to describe their national systems.49/

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48/ The MPS concept of global product corresponds to the SNA concept of gross production, with the difference that its scope is limited to the activities of the material sphere and is used only to designate the sum of the gross production of the latter (paragraph 256).

49/ See United Nations, Comparisons of the ..., Series F, No. 20, op. cit., paragraph 2.36 and table 2.3.

/207. For

207. For the purposes of this document on the comparability of MPS and SNA, the material and financial balances are of particular interest, which explains why the characteristics and content of the tables of these two schemes are commented on below in greater detail. The definition and scope of the principal concepts and transactions involved in these two balances are included in the last point of this part, which begins with paragraph 258.

(b) The material balance

208. The material balance constitutes an important part of the system of balances of the national economy, since it records the process and the results of the global product in its material aspect. This balance makes it possible to establish the origin of the material resources of the economy and the economic sectoral structure of domestic production, as well as the composition of the use or economic destination of the material goods available in a period.

209. These indicators of the economic process are recorded in the principal or basic scheme, which is shown in summary form in table 13.50/

210. The rows of this table show the material composition of the global product, which is the whole group of material goods which, according to their concrete material form, are classified into two principal economic subdivisions: means of production and objects of consumption. Besides the classification according to their economic destination, the groups of products are distributed in the balance according to their sectoral origin (see paragraph 186). Since this table is valued at purchasers' prices, in the row of transport services only passenger transport is included, since the services for distribution of goods -transport and trade of material- render a series of service functions to the users of material goods, created in the first group of sectors, and the increase in value resulting from them becomes part of the final price of the circulating material goods of the economy. Thus, the production of the sectors which carry out commodity trade does not appear in the horizontal rows of the balance, but in the columns.

211. The columns of this table are divided into two sections, in which is recorded, first, the total of the supply of material resources for each row, that is, for each group of goods classified according to its sectoral origin and, second, the different forms of its utilization.

212. The first section (columns 1 to 3) on the origins of the material goods (resources) includes the global product and imports. The values of the global product -as already indicated- are shown at purchasers' (user) prices; presented separately in column 1 are the producers' values (with inclusion of the taxes on businesses) and the margins of distribution corresponding to the transport and commerce sectors.

213. The second section (columns 4 to 9) records in detailed form the different use or economic destination of the total supply of each one of the groups of material resources. The first subdivision of this section, or first use recorded, refers to the expenditure in intermediate material consumption, which is presented in detail for each economic sector of the material sphere. This part of the table of the material balance makes it possible to establish the intersectoral (input-output) productive relations in the economy.

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50/ The complete table may be found in United Nations, Basic Principle ..., Series F, No. 17, op. cit., table 2.1.

Table 13

THE BALANCE OF PRODUCTION, CONSUMPTION AND ACCUMULATION OF THE GLOBAL PRODUCT

(Material balance)

| Material goods and services | Supply | | | Utilization | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Global product | Imports | Total | Intermediate material consumption | Final consumption | Net capital formation | Losses | Exports | Total |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1. Total for the national economy (2 + 3) | | | | | | | | | |
| - Industrial goods | | | | | | | | | |
| - Output of construction | | | | | | | | | |
| - Agricultural products | | | | | | | | | |
| - Forestry products | | | | | | | | | |
| - Passenger transport | | | | | | | | | |
| - Output of communications | | | | | | | | | |
| - Products of other branches of material sphere | | | | | | | | | |
| 2. Total of means of production (same as 1, excluding passenger transport) | | | | | | | | | |
| 3. Total of consumer goods (same as 1) | | | | | | | | | |

/214. The

214. The second subdivision (column 5) corresponds to final consumption, which is classified into the following categories: (i) personal consumption of material goods and services by the population; (ii) consumption of material goods and services by institutions which satisfy the individual needs of the population, and (iii) other classes of final consumption. The first two categories total the expenditure for consumption of the population, and the third refers to the expenditure in material goods by institutions which satisfy collective needs of the society.51/

215. The third subdivision of the utilization of material goods in table 13 (column 6) refers to net capital formation, which includes the investment in fixed assets and increases in stocks. The next two columns (7 and 8) on the disposition of material goods record losses and exports.

216. Added to this basic scheme of the material balance at purchasers' prices is a supplemental, similar table at producers' prices. Additionally, since in practice the elaboration of the basic table of the material balance in all its details could present difficulties, the system proposes the compilation of a simplified table which is called "balance of the production and utilization of the global product". This table contains only the total of the rows and columns of the previous basic table.52/

217. Besides the tables analysed, MPS includes in the scheme of the material balance seven supplementary tables for the study of specific aspects of the economic process. One of these areas is the balance of the analysis of the sectoral origin of the national income and of the composition of the corresponding expenditure, which is shown in table 14.53/

218. The other more detailed field of research included in the material balance is connected with the socio-economic sectors. Cross tabulations show the distribution by social sectors and by economic sectors of the global product, the intermediate material consumption and national income, as well as the structure of final consumption and net capital formation by socio-economic sectors.54/ Table 15 on the global product is presented as an illustration.

219. The other supplementary table of the material balance attempts to detail the personal consumption of material goods, classified according to sources of supply, by various social groups of the population.55/

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51/ The sectors of the non-material sphere included in the second and third categories of final consumption were analysed in paragraphs 187 and 188.

52/ See, United Nations, Basic principles ..., Series F, No. 17, op. cit., tables 2.2 and 2.3.

53/ Ibidem. Table 14 corresponds to table 2.4 in the United Nations document. The MPS concept of national income has a different meaning from the concept with the same name in the SNA system. In MPS, national income corresponds to net added value -or net domestic product- as used by SNA, but it is restricted to the activities which, in MPS, are included in the material production sphere (see paragraph 272).

54/ Ibidem, tables 2.5, 2.6, 2.7, 2.8 and 2.10.

55/ See United Nations, Basic principles ..., Series F, No. 17, op. cit., table 2.9.

/Table 14

Table 14

BALANCE OF THE NATIONAL INCOME AND ITS UTILIZATION

| Supply of material goods and services | Utilization of the national income |
|---|---|
| 1. Industry | 9. Consumption of the population: |
| 2. Construction | 9.1 Personal consumption |
| 3. Agriculture | 9.2 Consumption of material goods in units of the non-material sphere which provide individual services to the population |
| 4. Forestry | |
| 5. Transport | |
| 6. Communications | 10. Other final material consumption to satisfy collective needs |
| 7. Trade | 11. Final consumption (9 + 10) |
| 8. Other sectors of material production | 12. Net capital formation: |
| | 12.1 Net fixed capital formation |
| | 12.2 Increase in inventories |
| | 13. Losses |
| | 14. Subtotal: domestic utilization of the national income (11 + 12 + 13) |
| | 15. Net exports |
| Total (income generated by material production) | Total (utilization of the national income) |

/Table 15

Table 15

THE GLOBAL PRODUCT BY ECONOMIC BRANCHES AND SOCIAL SECTORS

| Socio-economic sectors / Economic branches | Socialist sector | | | | | | Private sector | Total |
|---|---|---|---|---|---|---|---|---|
| | Subsector | | | | | Subtotal | | |
| | Government | Co-operatives | Associations | Personal plots of: | | | | |
| | | | | Employees | Members of co-operatives | | | |
| Industry | | | | | | | | |
| Construction | | | | | | | | |
| Agriculture | | | | | | | | |
| Forestry | | | | | | | | |
| Transport | | | | | | | | |
| Communications | | | | | | | | |
| Trade | | | | | | | | |
| Other branches of material production | | | | | | | | |
| Total | | | | | | | | |

/(c) Financial

(c) Financial balance

220. The balance of the production, distribution, redistribution and final disposition of the global product and the national income, known as the financial balance, describes the process of production of the global product from the point of view of its value, showing how this production, circulation and utilization generates the formation, movement and final disposition of incomes.

221. This balance records the distribution of the primary income generated in the sectors of the material sphere -by the production and sale of the material production- between primary incomes of the population and primary incomes of enterprises, the volume and structure of the secondary incomes originating in the non-productive sphere, the origins and channels of redistribution of incomes and, finally, the utilization of incomes by enterprises, institutions, social organizations and by the population, for final consumption, net capital formation and compensation for losses.

222. The financial balance is the most general MPS table. It contains all the basic indicators of the material balance, but, unlike the latter, which only describes the cycle followed by production in its concrete material form, the financial balance also analyses income flows. Thus, whereas the material balance shows the production and utilization of the global product, the financial balance not only registers these phases, but also reveals the mechanisms of the primary and secondary generation of incomes during the process, and their later redistribution.

223. Thus, the correspondence between the indicators of the production and utilization of the global product, and those of the national income in the financial balance with the similar indicators of the material balance, provides a description of the structures of production in terms of flows of incomes and products. Moreover, the co-ordination of the indicators of the financial balance with the indicators of the other sections of MPS serves as an instrument for controlling the consistency and interdependency of the indicators of the system of balances of the national economy as a whole.

224. Table 16 presents a summary version of the basic financial balance table.56/ The rows classify and group the economic units, and the columns show the transaction flows, reflecting the formation and movement of the incomes up to the final phase of utilization.

225. In the financial balance, the primary and secondary incomes, as well as the final incomes used in consumption and accumulation, are recorded in accrued terms. However, the relations among the sectors of the national economy, by social sectors, and between the population, by social groups, and the financial and credit system are indicated on the basis of effective payments and interests. The difference between the accrued incomes and the received incomes is adjusted by indicators of

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56/ The complete scheme is found in United Nations, Basic principles ..., Series F, No. 17, op. cit., table 3.1. In United Nations, Comparisons of the System..., Series F, No. 20, op. cit., includes table 2.2, which contains a condensed and modified version of the presentation of this basic table, so that the content of the different flows which are used in MPS may be characterized by specific elements.

/Table 16

Table 16

THE BALANCE OF PRODUCTION, DISTRIBUTION, REDISTRIBUTION AND FINAL DISPOSITION OF THE GLOBAL PRODUCT AND THE NATIONAL INCOME

(Financial balance)

| Elements of the production and distribution of the global product and the national income / Groups of economic units | Production and primary distribution of the global product and the national income | | | | | | Balance of exports and imports of material goods | Redistribution of the global product and the national income | | | | | | Balance of redistribution | Final disposition of the global product and the national income | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Global product | | | | | Regrouping of primary incomes | | Paid out | | | Received | | | | Global product | | | | | |
| | | | National income | | | | | | | | | | | | | | National income | | | |
| | Total | Material inputs | Total | Primary incomes of population | Primary incomes of the enterprises | | | Total | Through the financial and credit system | Outside the financial and credit system | Total | Through the financial and credit system | Outside the financial and credit system | | Total | Material inputs | Total | Final consumption | Net capital formation | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1. Material sphere | | | | | | | | | | | | | | | | | | | | |
| 1.1 Socialist sector (Opening - socio-economic subsectors) | | | | | | | | | | | | | | | | | | | | |
| 1.2 Private sector (Opening - economic branches) | | | | | | | | | | | | | | | | | | | | |
| 2. Non-material sphere | | | | | | | | | | | | | | | | | | | | |
| 2.1 Social sector (Opening - socio-economic subsectors) | | | | | | | | | | | | | | | | | | | | |
| 2.2 Private sector (Opening - economic branches) | | | | | | | | | | | | | | | | | | | | |
| 3. Population | | | | | | | | | | | | | | | | | | | | |
| 3.1 Employees | | | | | | | | | | | | | | | | | | | | |
| 3.2 Members of co-operatives | | | | | | | | | | | | | | | | | | | | |
| 3.3 Other groups of the population | | | | | | | | | | | | | | | | | | | | |
| 4. Total for the national economy (1+2+3) | | | | | | | | | | | | | | | | | | | | |
| 5. Foreign countries | | | | | | | | | | | | | | | | | | | | |
| 6. Total (4+5) | | | | | | | | | | | | | | | | | | | | |

the changes produced in the debit and credit position, as one of the forms of redistribution. The method adopted in the financial balance to reflect the income flows makes it possible to co-ordinate its indicators, on the one hand, with those of the material balance and, on the other, with the monetary flows.

226. The first section of the columns (columns 1 to 6) describes the gross production of the units of the material sphere of production, as well as the material inputs 57/ and the national income, divided into primary incomes of the population and of the enterprises. As this section refers to the creation of the global product and to the formation of primary incomes, it will only include data on production in the rows included in the groupings mentioned under codes 1.1 and 1.2, in the material sphere part, in accordance with the data which figure in the material balance.

227. The primary distribution of the national income occurs in the production phase and consists of the distribution of the net added value between primary incomes of the population employed in production and primary incomes of the enterprises. In order to reflect the later distribution of incomes, a regrouping is made of the primary incomes as a function not of the sectors where they are created but of the persons who receive them. In this respect, the grouping consists of moving the primary income of the population, which figure in column 4, to column 6 with a minus sign and, at the same time, transferring those in this same column 6 with the contrary sign (plus) into the rows of the corresponding social groups of the population (codes 3.1 to 3.3).

228. In this regrouping of the incomes generated in the personal plots of employees and of members of co-operatives, as well as of the incomes of private operations of craftspersons of all kinds and of peasants not members of co-operatives, the only part transferred is that available to the population as consumer object. There is no regrouping of the part of incomes obtained in those operations which, along with the balance of redistribution, is utilized for the purpose of accumulating productive fixed assets, circulating material means and compensation for losses, since the financial balance shows the incomes and expenditures of the population sector as a consumer unit.

229. In the row "foreign countries" (row 5) shows all links between domestic units and foreign countries. Thus, it reflects in summary form all the items of the international balance of payments. The data of the balance of payments are used to estimate the items of the financial balance. The balance of export and import of material goods is shown in column 7, and all the remaining financial flows are reflected in that section of the financial balance which relates to redistribution (columns 8 to 14). The redistribution balance, as recorded in column 14, coincides in absolute terms, with the value shown in column 7, but with opposite sign.

230. The primary incomes received by the enterprises and the population are not completely utilized by them but are routed in part to further distribution. Moreover, as a result of redistribution, other incomes are generated in the non-productive sphere, and there are also transfers of accumulated incomes and funds between branches, enterprises, households and foreign countries according

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57/ The material inputs (intermediate material consumption) include the consumption of fixed capital (see paragraph 266).

/to development

to development needs of the national economy. In MPS these redistributive transfers are considered to be financial in nature, and taken together they constitute what may be called the balance of redistribution of incomes within the general financial balance system, as reflected in the third section of column headings in table 15 (columns 8 to 14).

231. It should be pointed out that the "incomes" concept in the context of the balance of redistribution, covers not only transactions related to incomes as such but also to operations relating to the movement of accumulated funds, as noted in the preceding paragraph. Consequently, such resources are used both for allocations to compensate for operating and consumption expenditure and also for contributions to cover the financing of the investment in capital goods.58/

232. The channels of redistribution in the financial balance are classified in two big groups: those which operate through the financial and credit system and those which function outside of it.

233. The financial and credit system includes the following channels (or other facilities) by means of which incomes are transferred: the national budget, social security, extrabudgetary funds, the banking and credit system and the insurance system. The transactions associated with each channel are recorded separately in columns 9 and 12 as paid or received, respectively, according to the type of instrument or position of the transactor involved (table 16).

234. Among the main transactions of each financial and credit channel, mention should be made of the following. In the national budget, all types of taxes, subsidies, deductions from the operating surplus of units in both spheres, financing of expenditure on capital goods, contributions to cover the current expenditure of budgetary units, maintenance of diplomatic representation and contributions to international organs. Social security transactions consist in social insurance contributions and corresponding contributions. Transactions in the banking and credit system consist in interest, increases or decreases in deposits and loans of all kinds and changes in cash funds including foreign currency but excluding gold reserves in the hands of different transactors. In the insurance system, they consist in payments and indemnity by goods insurance and personal insurance.

235. In the row captioned "Total for the national economy" transfers of incomes to the financial and credit system are balanced against the contribution of incomes from that system to the total amount of all income flows which operate in the system. It should be pointed out that in the basic financial balance table the relations of the financial and credit institutions among each other are not shown since there is no need to record the transactions which take place within the orbit of the financial and credit system as such along with those of the units which are users of that system in order clearly to show the relations of that system with the remaining transactors of the economy.59/

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58/ This part of the MPS includes, in SNA terminology, transactions on current income and transfers as well as capital transfers and acquisition of financial assets and liability, excluding changes in gold reserves (see paragraphs 26 and 30).

59/ The relations among the financial and credit institutions are given separately in a supplementary table (see paragraph 243).

/236. The

236. The second income redistribution group relative to the channels in operation outside the financial and credit system (columns 10 and 13 of table 16) includes, primarily, transactions related to units in the non-material sphere. Since the non-material sphere is outside the sphere of production (see paragraphs 161, 200 and 208), it is not included in the area of the financial balance with regard to the creation of the global product (see paragraph 226), but is, by definition, included in the section on income redistribution.

237. The main transactions recorded in this second group are the following: (i) the total value of services rendered by economic units in the non-material sphere and foreign units; (ii) wages and other remunerations paid to the population in money and in kind for work done in the establishments of the non-material sphere, including wages for domestic service; (iii) direct transfer of income by some economic units to other economic units to cover part of their expenditure; this arrangement operates both between units in the same sphere and between units in the two spheres; (iv) increase in indebtedness, which is the net balance of increase and decrease in liabilities of enterprises, institutions and foreign units, and (v) other kinds of transfer of income, such as fines and penalties in settlement between enterprises and institutions, various forms of payments to the population, not involving payment for labour, transfer by enterprises to the population of material goods other than as payment for labour, uncompensated shifts of fixed assets and circulating assets between economic units and contributions of the population paid to voluntary organizations.

238. That section of table 16 (the financial balance) which covers redistribution of the global product and the national income is supplemented with data on the redistributive income paid out and the redistributive income received (column 14) by economic and socio-economic sectors and the population. With respect to the national economy as a whole (row 4), the balance of redistribution is the same, but with the opposite sign, as the balance of imports and exports of material goods (row 5) and hence in the grand total of the table (row 6) the balance of redistribution is nil. In each row the balance of redistribution is obtained by subtracting the data in column 8 from those in column 11.

239. For the sphere of material production as a whole (row 1), the net balance of redistribution must always have a minus sign. This means that the sphere of material production pays out more income than it receives. The magnitude of the net balance on this row shows the net redistribution income paid up by the sphere of material production to the non-material sphere, the population and abroad. On the other hand, in the non-material sphere as a whole (row 2), the balance of redistribution is always positive because this sphere uses part of the income of the material sphere. In the same way, during the process of redistribution, the population receives more income than it transfers.60/

240. In the last section of the financial balance, the final distribution of the global product and national income within the country are shown (columns 16 to 20 in table 16). All indicators of this section are equal to the corresponding indicators of the material balance.

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60/ United Nations, Basic principles of the..., Series F, No. 17, op. cit., paragraphs 3.46 and 3.47.

241. The national income utilized in the economy of the country as a whole equals the primary incomes of the population and the enterprises, plus the net balance of redistribution.
242. In addition to the table, or basic balance, analysed, the financial balance is accompanied by two supplementary tables for the analysis of the following additional aspects of income distribution: relations between financial and credit institutions and the monetary income and expenditure of the population.
243. The table on the interrelations of financial and credit institutions is in matrix form, with identical row and column captions: the budget, the banking system, savings banks, social insurance, goods and personal insurance and extra-budgetary funds. This table establishes the mutual relations between such institutions, the receipts of one institution corresponding to the disbursements of another while these institutions as a whole are consolidated (cancel one another out) since the sums of the totals of all the rows and the sum of the totals of all the columns which correspond to them are equal.
244. The second supplementary table is entitled balance of money income and expenditures of the population and is intended: (i) to determine the sources and structure of the money income of the population as a whole and by social groups; (ii) to determine the structure of the money expenditures of the population, including transfer of money in cash but excluding remunerations and transfers in kind. Incomes and expenditures also include financial transactions such as movements of bank deposits, loans for the construction of dwellings, mortgage payments, state bonds, etc.; moreover, unlike the other MPS tables, in this balance, the incomes and expenditures of the population also include the incomes and expenditures related to the production activities of personal plots and private ventures.

(d) The manpower balance

246. The manpower balance is designed to reflect the general data relating to the manpower and labour force of a country, the facilities for their training, their level of employment, their social composition, their distribution among the branches of the national economy, the skills of the labour force and the utilization of working time. This balance is organically linked with the other sections of MPS, making it possible to estimate, among other indicators, labour productivity in the several branches of production, the fixed capital available per worker employed, the average income by level of employment, and by socio-economic groups of the population, etc.
247. At present, however, in the statistical practice of the States members of CMEA, only data on total manpower resources and on the distribution of persons employed by sectors of the national economy have been developed and compiled. Questions relating to the methodology of other parts of the manpower balance will be introduced in later phases.63/
248. Table 17 shows the balance of manpower resources and their distribution as between persons engaged in each sphere of production, students and population of working age employed in household tasks.64/

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63/ United Nations, Basic principles..., Series F, No. 17, op.cit., paragraph 4.2.

64/ This table corresponds to table 4.1 in United Nations, Basic principles..., Series F, No. 17, op. cit.

/Table 17

Table 17

BALANCE OF MANPOWER RESOURCES
(Annual average)

| | |
|---|---|
| | **A. Manpower resources** |
| 01 | Working age population, excluding invalids and pensioners who do not work, although of working age |
| 02 | Adolescents who have not reached working age, but who work |
| 03 | Working population above the working age |
| 04 | Total manpower resources (01 + 02 + 03 = 25) |
| | **B. Distribution of manpower resources** |
| 05 | Total resources employed in the national economy (06 + 15) |
| 06 | Total employed in the material production sphere |
| 07 | Industry |
| 08 | Construction |
| 09 | Agriculture |
| 10 | Forestry |
| 11 | Transport |
| 12 | Communications |
| 13 | Trade |
| 14 | Other sectors of material production |
| 15 | Total employed in non-material sphere |
| 16 | Housing, public and community services |
| 17 | Education, culture and art |
| 18 | Health, social security and sports |
| 19 | Science and scientific services |
| 20 | Finance, credits and insurance |
| 21 | General government |
| 22 | Other sectors of the non-material sphere |
| 23 | Full-time students of working age |
| 24 | Other members of the working age population |
| 25 | Total distribution of manpower resources (05 + 23 + 24) |

/249. Another

249. Another supplementary table is the double entry table in which persons engaged in production are classified by economic and socio-economic sector.65/

(e) Indicators of national wealth and the balance of fixed capital

250. In MPS, the indicators of the volume and structure of the national wealth are shown in the tables "Indicators of national wealth" and "Balance of fixed capital". In addition, a number of supplementary tables can be drawn up to provide a more detailed characterization of individual elements of the national wealth.

251. The table on indicators of the national wealth is designed to show the variation in the volume of the national wealth and, in conjunction with other MPS indicators, to study the effectiveness of the utilization of the available assets, the fixed capital available per worker and related questions.

252. This system is presented in table 18, which shows the principal groups of elements of the national wealth arranged in rows according to their role in the process of production, and by the form of ownership. The column captions of the table show the volume of wealth at the beginning and end of the year and its growth during the year.66/

253. The concept of national wealth include the fixed assets used in the material sphere of production (productive fixed assets) and those reserved for purposes of non-productive consumption, such as stocks of materials, including productive work in progress, durable household consumer goods, foreign currency reserves -which are the equivalent of property rights to part of the national wealth of another country-, the country's balance of payment and material goods in national ownership but located abroad. The national wealth also includes natural resources that have been brought into the economic cycle (reclaimed land, developed forests and rivers); however, undeveloped natural resources are not counted as part of the national wealth.

254. Fixed assets constitute the most important part of the national wealth. The balance of fixed assets shown in table 19 67/ was established to obtain a detailed description of this component. The row captions indicate groups of fixed assets by economic destination and also by the various branches of the national economy to which they are assigned and by forms of ownership. The column captions of the balance relate to the indicators which describe the volume of the fixed assets at the beginning and the end of the year and the growth of those assets.

255. This table shows the net capital formation during the period and the net capital in the economy, i.e., the original value less allocations for the consumption of fixed capital. In MPS another table is presented. This table is similar to the one described above but reflects the original accumulated value of the existing fixed assets. In other words, it does not include data for the consumption of fixed assets or for capital repairs. Moreover the total, rather than the residual, value of the liquidated assets is deducted 68/

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65/ Ibid., table 4.2.

66/ This table is based on table 5.1 contained in United Nations, Basic principles..., Series F, No. 17, op. cit.

67/ Ibid., table 5.2.

68/ United Nations, Basic principles..., Series F, No. 17, op. cit., table 5.3.

/Table 18

Table 18

INDICATORS OF NATIONAL WEALTH

| | Beginning of year | End of year | Increase during year |
|---|---|---|---|
| A. Government property (national) | | | |
| 1. Fixed assets | | | |
| 1.1 Productive | | | |
| 1.2 Non-productive | | | |
| 2. Stocks | | | |
| 2.1 Materials and supplies | | | |
| 2.2 Work in progress | | | |
| 2.3 Finished goods | | | |
| 3. Government reserves | | | |
| B. Co-operative property and collective farms | | | |
| 1. Fixed assets | | | |
| 1.1 Productive | | | |
| 1.2 Non-productive | | | |
| 2. Stocks | | | |
| 2.1 Materials and supplies | | | |
| 2.2 Work in progress | | | |
| 2.3 Finished products | | | |
| C. Property of the population (by social groups) | | | |
| 1. Fixed assets | | | |
| 1.1 Productive | | | |
| 1.2 Non-productive | | | |
| 2. Durable articles in possession of family units | | | |
| 3. Stocks of agriculture products on personal plots | | | |
| Total (A + B + C) | | | |

/Table 19

Table 19

THE BALANCE OF FIXED ASSETS OF THE NATIONAL ECONOMY

(At original cost less depreciation)

| Change during year / Branches of the national economy | Fixed assets at beginning of year | Additions | | | | | Substractions | | | | | Fixed assets at end of year | Increase during year |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | New fixed assets put into use | Capital repair | Transfers from other forms of ownerships and other economic branches | Fixed assets from other sources | Total | Consumption of fixed assets | Depreciated value of fixed assets scrapped | Transfer to other forms of ownership and other economic branches | Other withdrawals of fixed assets | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. Total fixed assets of the national economy (2 + 3) | | | | | | | | | | | | | |
| 2. Productive fixed assets (Opening - forms of property and economic branches) | | | | | | | | | | | | | |
| 3. Non-productive fixed assets (Opening - forms of property and economic branches) | | | | | | | | | | | | | |

/4. Definition

4. Definition and scope of transactions on the supply and utilization of goods and services and primary income

(a) Global social product

256. The global product is defined as the total value of material goods produced in the branches of material production during a given period. In its physical tangible composition, it consists of two large categories of goods: means of production and consumer goods (see paragraph 210). In respect of value, it is distributed between transferred value (material inputs) and newly created value (net value added or national income).

256. "Means of production" means all material goods which, in the process of production, perform the function of means or objects of productive labour, whether used to replace the material goods consumed in the process of material production or for fixed capital formation or increasing the stocks of enterprises. "Consumer goods" means the material goods which finally leave the sphere of material production and enter non-productive consumption during the current or some future period.

258. The global product equals the sum of the gross output of the branches in the material sphere. The delineation of the sphere of material production and the classification of activities by branches of the economy was discussed above.69/ Nevertheless, in dealing with the comparability of the two systems of national accounts, it is of interest to note and comment upon some aspects relating to the ground covered by production in MPS and the criteria for valuation.

259. The gross output component of the global product embraces all the mercantile activities in the material sphere and such non-mercantile activities as the subsistence activities of households in connexion with the production of material goods on own account for home consumption (see paragraph 177), the construction of fixed capital goods on own account by any economic unit and production for intermediate consumption interchanged among establishments of a single undertaking in the material sphere, the establishments being dealt with separately.

260. The gross output of agriculture includes, by definition, all agricultural products regardless of the kind of unit in which they were produced and also including the value of the products obtained and used by the same establishment for its own production needs. On the other hand, in the construction sector, the work performed by a subcontractor for another general contractor is not included separately in the gross output in order to avoid double entry bookkeeping and duplication in the value of the total output.70/

261. The gross output of trade is equivalent to the surplus (or margin) representing the difference between the selling price and the purchase price of commodities bought for resale.71/ The gross output of restaurants, cafés, etc., is also calculated on the basis of the gross margin realized in the provision of such services, i.e., the cost of the food, drink, etc., consumed in these activities is not included in the gross output.

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69/ See title 1 of this section and paragraphs 177 and 186.

70/ United Nations, Basic principles..., Series F, No. 17, op. cit., paragraphs 2.23, 2.29 and 2.31.

71/ In some countries the renting of motion pictures is included in trade. United Nations, Basic principles..., Series F, No. 17, op. cit., paragraph 2.46.

262. The value of the sales of waste material and salvage obtained as by-products of the current manufacture of merchandise is not included in the gross output but it is deducted from the intermediate material consumption. Moreover, the gross output includes the margin of trade over the value of second-hand goods purchased from households but excludes costs of transfers over used fixed assets, which are considered to be redistributive payments.

263. The marketed output is valued at current producers' sales prices including turn-over taxes. Tips included in the account over and above the price of the corresponding service -when such an entry exists- are not included in the gross value of the output.

264. Although in MPS there is no explicit reference to the treatment of subsidies, it may be deduced from the recommendations on the calculation of the final consumption of the population that subsidies are not deducted from the value of the output.72/

265. The otuput of finished goods produced for sale is valued at sales prices while the output in progress and the output interchanged among establishments of a single enterprise are valued at estimated costs. Subsistence production for home consumption, excluding the construction of dwellings, is valued in terms of the average prices of similar products sold. The production on own account of buildings and other structures, including dwellings, is valued in terms of prices of similar construction jobs performed by specialized firms while other kinds of capital goods produced for own account, including capital repairs, are valued in the costs incurred. Material goods and services produced by enterprises and co-operatives and supplied to their employees or members free of cost or at lower than cost price are included in the value of the gross output expressed in the prices of similar products sold.

(b) Intermediate material consumption

266. Intermediate material consumption (also known as material imports) includes the entire annual input of material goods and services produced by the production units of the material sphere. This material expenditure consists of those materials and supplies which are completely consumed in the process of production and capital equipment the value of which is transferred in successive stages, i.e., fixed capital consumption.

267. These expenditures include those related to raw materials and other materials, fuels and energy, labour of a productive nature performed by third parties, transport services working under contract, communications services, other material expenditures for purposes of production and the depreciation of the fixed assets compensated in the period.

268. The consumption of fixed capital shows that part of the value of all fixed assets utilized in the production process, including the residual value after losses of fixed capital due to normal occurrences in production. The annual depreciation of the fixed assets is established directly in the enterprises themselves on the basis of current regulations governing depreciation. If the enterprises and

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72/ These recommendations indicate that the proportion of the value of material goods not paid for by the population is included in the value of final consumption; for example, additional payment for medicines purchased by the population at reduced prices (see paragraph 277).

establishments do not set up depreciation funds, the depreciation of the assets is determined by calculations based on data concerning the amount and composition of the fixed assets of the organization in question, and on current regulations concerning depreciation of analogous elements.

269. It should be noted that in MPS, travel expenses and other kinds of similar expenses incurred by workers in connexion with the activities of their employer are not included in intermediate consumption but are considered to be primary incomes of the population. Moreover, expenditure on uniforms provided to military personnel for military exercises are considered to be intermediate consumption while, on the other hand, other uniforms issued to military personnel such as uniform work clothes or special uniforms provided to workers, are considered to be wages in kind.73/

270. The services which enterprises in the material sphere render to their employees and workers in cultural, sports and similar facilities are normally supplied by separate units which are considered to be part of the non-material sphere. Therefore, the expenditures of enterprises with regard to these services are not included in their intermediate consumption but are classified as transfers to the non-productive sphere and, to the extent to which these expenditures relate to material goods and services, they are included in the final consumption of the units which promote these services.

271. Finally, among other questions which are of special interest with regard to the different criteria applied by SNA, mention should be made of the following: expenditures on fixed assets intended for military purposes are included in capital formation; losses of stocks due to damage caused by accidents are covered in a special section on losses and, in addition, it is recommended that fixed capital consumption allocations be made for highways, dikes, etc.

(c) Net material output and national income

272. The difference between the global product and intermediate material consumption, analysed from the point of view of production, is known as net material output. This concept is equivalent in value to the national income -a concept which reflects the difference referred to above but from the point of view of value generated or added in the production process.

(d) Final consumption

273. Final consumption concerns the material goods and services consumed and purchased by the population and the intermediate material consumption in the non-material sphere. The following categories are included within the material balance (see paragraph 214): personal consumption, consumption by institutions satisfying personal needs and the consumption by institutions satisfying collective needs (with regard, in all three cases, to the consumption of material goods and services). The activities in the non-material sphere which are included in each of the last two categories named were delineated above (see paragraphs 187 and 188).

274. Personal consumption includes the material goods and services purchased and consumed by the population, including goods supplied to it as incomes in kind. In the case of subsistence from farm activities, only goods consumed are included; goods which are accumulated are treated as changes in stocks. By definition, this

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73/ These items and their comparability with SNA are analysed in chapter III above.

category also includes the consumption of fixed assets in respect of all dwellings, and the material part of the travel expenses reimbursed by the employer (see pargraph 269).

275. The personal consumption expenditure of the population refers to expenditures made in the domestic market, i.e., it includes the expenditure of households resident in the national territory and excludes that of households resident abroad.

276. As for the other final consumption items relating to units in the non-material sphere, they include all purchases of material goods and services, such as miscellaneous material, fuels, electric current, operational devises, etc., as well as the consumption of fixed assets, with the exception of dwellings.

277. It should be noted that the material consumption by institutions of the non-material sphere providing personal services includes all their material outlay on services paid for, in full or in part, by the population or rendered free of charge since the direct purchases of the material goods required for such services is the institution which finances their purchase out of its own funds. This item also includes that portion of the value of material goods that is not paid for by the population (for instance, the supplementary payment towards the cost of drugs sold to the population at reduced prices).74/

278. Personal consumption plus the consumption of institutions satisfying personal needs constitute the consumption of the population, or more precisely, the material consumption of the population.

(e) Net capital formation

279. Net capital formation is the portion of the global product that is used to increase the stock of fixed assets and material circulating assets and reserves.

280. Net fixed capital formation covers the capital goods in both spheres, including those intended for military purposes. It includes machinery and equipment, all kinds of finished construction work, draught and breed cattle, perennial plantings and expenditures on land improvement and forest planting. The cost of transferring second-hand fixed assets or unfinished construction jobs are not included in this category.

281. In some cases, objects which by purpose and characteristics are elements of fixed assets are classified for practical reasons as stocks (inexpensive and short-lived tools, for example).

282. Changes in stocks of circulating material goods embraces the goods included in the circulating assets and in the circulating fund of finished products and articles. These categories include raw materials and other materials, fuels, work in progress -including unfinished construction jobs- poultry and cattle raised for slaughtering, the unconsumed portion of agricultural commodities produced for home consumption in economic household units and finished products in the hands of enterprises and trade.

283. Reserves consist of stocks of means of production and consumer goods available to the government to ensure uninterrupted production in the event of unforeseen difficulties and also to ensure the national defense. State reserves include monetary gold and precious metals and stones.

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74/ United Nations, Basic principles ..., Series F, No. 17, op. cit, paragraph 2.72.

/(f) Replacement

(f) Replacement of losses

284. This category embraces losses of fixed capital goods and stocks as a result of damage due to accidents and natural calamities, i.e., events which are not normal in production. Losses due to the discontinuance of unfinished construction are also included in this category.

(g) Exports and imports

285. Exports and imports of material goods and services include all merchandise transactions across the frontier of a given country and those involving transfers to foreign ownership within the territory of a country. Exports and imports also include transaction in monetary gold, contributions in kind by the government and by associations and the provision of watercraft and aircraft abroad. On the other hand, non-material services and transactions with regard to tourism and official travel are excluded from exports and imports.

286. Exports are valued in prices FOB and imports in prices CIF. The principle applied in valuing foreign trade is that that trade should ensure the relations between the valuation of production and its utilization. In this connexion, the method normally used is to recalculate the values in export and import currencies, using current exchange rates.75/

(h) Primary income of the population

287. This category embraces all types of income of the population (monetary and in kind) which originates in labour done in the material sphere. It includes the salary and wages of employees and workers, the income received for the labour of members of co-operatives, the distribution of profits of enterprises and official travel expenses reimbursed to workers. This category includes the net income from personal plots and small private household enterprises (operating surplus of unincorporated enterprises in the SNA terminology).

288. The income of the population is recorded prior to payment of taxes and does not include employers' contributions to social security. In MPS the employers' contribution to social security, which covers only real contributions, is considered to be a redistributive payment from the sectors to the social security system and is charged to the primary income of enterprises.

(i) Primary income of enterprises

289. The primary income of enterprises represents the difference between the net output of the enterprises in the material sphere and the payment of the primary income of the population.

290. The following concepts, among others, are part of the primary income of enterprises: taxes on businesses and other taxes such as penalties and fines paid by the enterprises; employers' contributions to social security; interest from bank loans; payment for services rendered by units in the non-material sphere and other non-material expenditures; allocations for different funds constituted in the enterprises and the profits, before the payments made to the workers are deducted, credited to the accounts of the enterprises.

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75/ In MPS there is also a possibility of applying calculated instead of official exchange rates. See United Nations, Basic principles ..., Series F, No. 17, op. cit., paragraphs 1.141 to 1.143.

## II. DIFFERENCES IN, AND LINKS BETWEEN, AGGREGATES ON GOODS AND SERVICES IN THE TWO SYSTEMS

### 1. The concept of production and its impact on the principal aggregates

291. In principle, in both systems the activities regarded as economic activities are the same. Both in the System of National Accounts (SNA) and in the System of Material Product Balances (MPS) economic activities cover all those activities carried out legally in the market, as well as unmarketed activities, which correspond to government services, non-profit institutions and own-account production activities for the purpose of consumption and capital formation. Both systems thus exclude illegal activities and those carried out at home (preparation of meals, child care, etc.).

292. However, despite this similarity there is a fundamental difference between the two systems with regard to definition of production concepts, resulting from the different theoretical framework that forms the basis for each of them.

293. MPS is based on the principle of distinguishing between economic activities on the basis of the kind of result attained through the use of labour, or the physical (material) contents of the result. Where the labour utilized for an activity contributes to the production of goods (material things) and to their distribution to users (transport and commerce), both the labour and the corresponding economic activity are regarded as productive and, on the contrary, in the remaining cases both are considered non-productive (see paragraphs 162 and 163). The MPS therefore divides economic activities into two groups: material activities (sphere) and non-material activities (sphere) and, as a result, limits the scope of production and generation of income to activities in the material sphere (see paragraph 161), placing emphasis on the importance of such activities as the population's primary activities.

294. The scope of SNA is different. SNA is based on the principle that all activities that meet individual or collective needs of any description, in other words, both activities relating to the production of goods and those relating to provision of services in general, are all productive and income-generating activities (see paragraph 93). In SNA the scope of economic activities, production activities, production and generation of income are one and the same.

295. This basic difference between SNA and MPS as regards production concepts has an impact on all the chief categories of the two systems. On the basis of an extremely simple input/output table combining the aspects of SNA and MPS it is possible to see the principal categories or aggregates of the two systems and to demonstrate the link between the two.

296. In the simple example provided in table 20 showing combined input/output the SNA categories are used and the flows of goods and services are divided into the material and non-material categories in accordance with MPS. For the sake of simplicity, among the final-use components exports are presented net of imports. Taking account of the information set forth in the table in question, the comparability of the chief aggregates of the two systems may be approached in three ways: through gross output, through the final-cost categories, or through the income components.

297. Table 21 shows the links that exist between the categories of the two systems on the gross output side, taking as a basis the gross value of output of SNA and the global product of MPS. On the left-hand side the basic data given in table 20

/Table 20

Table 20

COMBINED SNA/MPS INPUT/OUTPUT TABLE

| Goods and services / Inputs | Intermediate use | | | Final use | | | | Availability total |
|---|---|---|---|---|---|---|---|---|
| | Material sphere | Non-material sphere | Total | Consumption | Gross capital formation | Exports, less imports | Total | |
| Goods and material services | 210 | 30 | 240 | 159 | 64 | 11 | 234 | 474 |
| Non-material services | 50 | 10 | 60 | 51 | 2 | 3 | 56 | 116 |
| Sub-total | 260 | 40 | 300 | 210 | 66 | 14 | 290 | 590 |
| Net value added | 180 | 73 | 253 | | | | | |
| Consumption of fixed capital | 34 | 3 | 37 | | | | | |
| Gross value added | 214 | 76 | 290 | | | | | |
| Gross production | 474 | 116 | 590 | | | | | |



/Table 21

Table 21

CHIEF GROSS OUTPUT CATEGORIES OF THE TWO SYSTEMS

| Basic data in table 20 | | | | SNA categories | | MPS categories | |
|---|---|---|---|---|---|---|---|
| | Activities | | | | | | |
| Concepts | Material sphere | Non-material sphere | Total | Concepts | Total | Concepts | Total |
| 1. Gross output | 474 | 116 | 590 | 1. Gross value of output | 590 | 1. Global product | 474 |
| 2. Intermediate use: | | | | 2. Intermediate consumption: | | 2. Intermediate consumption of: | |
| 2.1 Goods and material services | 210 | 30 | 240 | 2.1 (*) Goods and material services | 240 | 2.1 Goods and material services | 210 |
| 2.2 Non-material services | 50 | 10 | 60 | 2.2 (*) Non-material services | 60 | | |
| 2.3 Total (2.1+2.2) | 260 | 40 | 300 | 2.3 Total (2.1+2.2) | 300 | 2.3 Total (= 2.1) | 210 |
| 3. Gross value added (1-2.3) | 214 | 76 | 290 | 3. Gross domestic product (1-2.3) | 290 | 3. (*) Global product, less intermediate consumption of goods and material services (1-2.1) | 264 |
| 4. Consumption of fixed capital | 34 | 3 | 37 | 4. Consumption of fixed capital | 37 | 4. Consumption of fixed capital in the material sphere | 34 |
| 5. Material inputs (2.1+4) | 244 | 33 | 277 | 5. (*) Material inputs (2.3+4) | 277 | 5. Material inputs in the material sphere (2.1+4) | 244 |
| 6. Net value added (3-4) | 180 | 73 | 253 | 6. Net domestic product (3-4) | 253 | 6. Net material product (1-5 = 3-4) | 230 |



'are repeated'

are repeated, in the centre the SNA categories and on the right-hand side the concepts which basically correspond to MPS. The categories marked by an asterisk (*) are not included as endorsed by the systems, but they may be assessed both in principle and in practice.

298. On the basis of table 21, in table 22 the calculation of the gross domestic product (GDP) of SNA is shown, taking as a basis the net material product (NMP) of MPS and using production data; naturally, NMP may be derived from GDP, by making the same adjustments in the opposite direction.76/

Table 22

CALCULATION OF GDP ON THE BASIS OF NMP, ON THE PRODUCTION SIDE (APPROACH 1)

| | Categories | Total |
|---|---|---|
| | Net material product (NMP) | 230 |
| Minus: | Intermediate consumption of non-material services in the material sphere | 50 |
| Equals: | Net value added in the material sphere | 180 |
| Plus: | Net value added in the non-material sphere | 73 |
| Equals: | Net value added = net domestic product (NDP) | 253 |
| Plus: | Total fixed-capital consumption | 37 |
| Equals: | Gross value added = gross domestic product (GDP) | 290 |

299. The effect of the basic difference on the production side may be seen in the net aggregates of the two systems. When compared with the net domestic product (NDP) of SNA, the net material product (NMP) of MPS is: (i) lower, because it does not include the net aggregate value of services in the non-material sphere (73), since MPS does not regard such activities as productive; (ii) greater, owing to the fact that the amount represented by non-material services used as intermediate consumption in the material sphere is not deducted (50), since, in MPS this type of input is impossible, as non-material activities do not form a part of production.

300. Naturally, in the case of the gross domestic product, since the gross domestic product is in a gross category, there is an additional item: consumption of fixed assets. This item is not related to the basic differences; however, in the case of the chief categories providing a link between the two systems, one of which is of a net character (PMN) and the other gross (GDP), consumption of fixed assets must be taken into account as an equally necessary adjustment.

301. The second approach towards converting the SNA gross domestic product and the MPS net material product is based on the final-cost component.77/ The links between the various final-cost categories are shown in table 23, whose layout is similar to that of table 21.

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76/ Basically, this approach is used in table 5.3 of the United Nations document entitled Comparisons of..., Series F, No. 20, op. cit.

77/ This approach is similar to that adopted in table 5.2 of the United Nations document entitled Comparisons of..., Series F, No. 2, op. cit.

/Table 23

Table 23

CHIEF FINAL-EXPENDITURE CATEGORIES OF THE TWO SYSTEMS

| Basic data in table 20 | | | | SNA categories | | MPS categories | |
|---|---|---|---|---|---|---|---|
| Concepts | Goods and services | | | Concepts | Total | Concepts | Total |
| | Material | Non-material | Total | | | | |
| 1. Final consumption | 159 | 51 | 210 | 1. Final consumption | 210 | 1. Direct purchases of goods and material services by households | 159 |
| 2. Material inputs in the non-material sphere a/ | 33 | | 33 | | | 2. Material inputs in the non-material sphere | 33 |
| | | | | 3. Final consumption (= 1) | 210 | 3. (=) Final consumption (1+2) b/ | 192 |
| 4. Gross capital formation | 64 | 2 | 66 | 4. Gross capital formation | 66 | 4. Gross capital formation | 64 |
| 5. Fixed-capital consumption | 37 | - | 37 | 5. Fixed-capital consumption | 37 | 5. Fixed-capital consumption | 37 |
| | | | | 6. Net capital formation (4-5) | 29 | 6. Net capital formation (4-5) | 27 |
| 7. Exports, less imports | 11 | 3 | 14 | 7. Exports, less imports | 14 | 7. Exports, less imports | 11 |
| | | | | 8. Net domestic product (3+6+7) | 253 | 8. Net material product (3+6+7) | 230 |
| | | | | 9. Gross domestic product (3+4+7 = 8+5) | 290 | | |

a/ Includes intermediate consumption of goods and materials services (30) and consumption of fixed capital (3), in the non-material sphere (see table 20).

b/ The disaggregation of final consumption in the MPS is different, but it may be obtained by adding items 1 and 2. See table 29.

302. On the basis of the data given in table 23, table 24 shows the adjustments that must be made in the final-expenditure components in order to calculate, by means of this second approach, the SNA gross domestic product (GDP) on the basis of the MPS net material product (NMP). In this case the basic differences in the two systems lie in the fact that in comparison with the net domestic product (NDP) the net material product (NMP) is: (i) lower as regards the amount of non-material services destined for final use (in SNA); (ii) greater as regards the quantity of inputs of goods and material services used for activities in the non-material sphere.

Table 24

CALCULATION OF GDP ON THE BASIS OF NMP, ON THE FINAL-CONSUMPTION SIDE (APPROACH 2)

| | Categories | Total |
|---|---|---|
| | Net material product (NMP) | 230 |
| Plus: | Final use of non-material services a/ | 56 |
| Minus: | Material inputs in the non-material sphere | 33 |
| Equals: | Net value added = net domestic product (NDP) | 253 |
| Plus: | Fixed-capital consumption | 37 |
| Equals: | Gross value added = gross domestic product (GDP) | 290 |

a/ Includes non-material services for final use for final consumption (51), for gross capital formation (2) and exports, less imports (3).

303. The former is due to the fact that, in MPS, activities in the non-material sphere are not productive and non-material services therefore do not form part of production and can consequently not be used. The second adjustment also arises from the fact that non-material activities are regarded as falling outside production; in theory, inputs in the non-material sphere are not productive and the material part used for such activities therefore appears as final consumption in MPS.

304. The third approach, in which income components are used, is described in the following paragraphs.

305. It should be borne in mind that, under the systems of balances of the national economy that make up MPS, transactions relating to the non-material sphere are not considered in the material balance, but in the financial balance (see paragraphs 222 and 236). The transfers that are excluded from the material balance are regarded as redistribution payments in MPS; they may be regarded as transfers in SNA. Therefore, although MPS has a more limited production scope than SNA, it has a greater scope than SNA where transfers are concerned.

306. In addition to the so-called conventional balances of MPS, the Standing Committee on Statistics of the Council for Mutual Economic Assistance (CMEA) has developed a new system entitled "System of Indicators of Non-material Services" (SINS). The purpose of this system is to provide a conceptual basis for collecting and publishing internationally comparable figures on economic activities in the non-material sphere with a view to assisting States members of CMEA to organize this branch of statistics and develop it further, facilitating international comparison and, above all, establishing closer links between SNA and MPS.

/307. Since

307. Since the entire system is in the process of being developed and it is actually the individual countries that publish the basic information of SINS, use of that system for the purpose of linking MPS and SNA is not included in this paper. A commendable effort was made in that connexion in the report on progress in work relating to comparisons between SNA and MPS for the twenty-first session of the United Nations Statistical Commission.78/ The Commission considered that SINS would be useful for linking MPS and SNA and that it should be used in preparing and improving the conceptual framework for comparing intersystems.

## 2. The composition of value added

308. In SNA and MPS the point of departure for analysing the functional distribution of income is the breakdown of the value added of productive activities. In SNA value added is defined in gross terms, in other words, it includes consumption of fixed capital, whereas in MPS it is defined in net terms, since it is deducted under the latter system. Nevertheless, since consumption of fixed capital is identified separately in each of the two systems, this difference does not constitute an obstacle to comparisons between them.

309. The chief difference between SNA and MPS arises from the differing concepts of production applied by each of them, since MPS income is confined to income generated by activities in the material sphere, whereas SNA value added covers income from both material and non-material activities, speaking in MPS terms.

310. Furthermore, in addition to this basic difference, there is a different presentation or classification as regards the breakdown (allocation) of the income resulting in each case. SNA shows the pattern of production costs and the share of the various factors that intervene in the production process, classifying the components of gross value added as: employees' salaries, consumption of fixed capital, indirect taxes, less subsidies, and operating surplus. On the other hand, MPS places emphasis on making a distinction between income from material production, the population's direct income, income with other destinations, for which purpose it disaggregates the net value added into two categories: primary income of the population and primary income of enterprises.

311. The primary income of the population is chiefly for financing personal needs, whereas the purpose of the primary income of enterprises is to meet social requirements, to which must be added the financing of capital formation and covering costs in the non-material sphere. This disaggregation is the primary distribution of income from the net material product (NMP).79/

312. Moreover, for the purpose of comparing the two systems, account should be taken of two major differences relating to treatment of: (i) employers' contributions to social security schemes; (ii) the operating surplus of small private producers and family plots. The first aspect is regarded as part of employees' salaries in SNA

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78/ United Nations, Statistical Commission, Links between..., E/CN.3/543, op. cit., part I.B.

79/ Income from activities in the material sphere is actually referred to as national income in MPS (paragraph 272). However, since in SNA there is a concept with a similar title but with a different meaning, in order to avoid confusion preference has been given in this chapter and in the following chapter, on the comparability of the two systems, to use of the term "income from the net material product" when reference is made to the national income of MPS.

/whereas in

whereas in MPS it forms part of the primary income of enterprises. The second aspect is considered part of the operating surplus in SNA and part of the primary income of the population in MPS.

313. For the purpose of showing the scope of the difference referred to, table 25 gives in detail the data on the net value added component shown in table 20.

Table 25

DISTRIBUTION OF NET VALUE ADDED, BY CHIEF INCOME COMPONENT

| Concepts | Activities | | Total |
|---|---|---|---|
| | Material sphere | Non-material sphere | |
| 1. Employees' salaries | 112 | 52 | 164 |
| (a) Wages and salaries | 90 | 42 | 132 |
| (b) Employers' contribution to social security schemes | 22 | 10 | 32 |
| 2. Operating surplus, including net indirect taxes | 68 | 21 | 89 |
| (a) Small private enterprises and personal plots | 13 | 5 | 18 |
| (b) Other units | 55 | 16 | 71 |
| 3. Net value added (1+2) | 180 | 73 | 253 |

314. The concepts of employees' salaries and the operating surplus, including indirect taxes, less subsidies, correspond to SNA, and the net value added (NVA) under the system is listed in the column giving the total. The coverage of activities in the two spheres and the separation within the surplus of units of a family type correspond to the MPS approach.

315. In the case of MPS the primary income of the population includes wages and salaries (90) and the operating surplus of small private producers and personal plots (13), both in the material sphere. The difference between primary income of the population (103) and total income from the net material product (NPM = 230, see table 21) is accounted for by the primary income of enterprises (127). This primary income of enterprises is made up of the operating surplus of the other production units of the material sphere, including net indirect taxes (55), plus contributions by employers in the material sphere to social security schemes (22) and the purchase of non-material services by units in the material sphere (50).80/

316. On the basis of the data given in table 25, table 26 shows the adjustments that must be made in income components in order to calculate the SNA net domestic product (NDP) on the basis of the MPS net material product (NMP).81/ This third

80/ NMP is higher than NVA in the material sphere as regards the amount of intermediate consumption of non-material services by units in the material sphere. See table 22 and paragraph 299.

81/ This approach is similar to that employed in table 5.1 of the United Nations document entitled Comparisons of..., Series F, No. 20, op. cit.

/Table 26

Table 26

CALCULATION OF NMP, ON THE INCOME SIDE (APPROACH 3)

| Categories under MPS | (a) | Adjustments in the material sphere owing to: Operating surplus of small enterprises and personal plots (b) | Employers' contribution to social security schemes (c) | Expenditure on non-material services (d) | Net value added in the material sphere (e) | Adjustments in the non-material sphere (f) | (g) | Categories under MPS |
|---|---|---|---|---|---|---|---|---|
| 1. Wages and salaries | 90 | | | | 90 | +42 | 132 | 1. Wages and salaries |
| | | | +22 | | 22 | +10 | 32 | 2. Employers' contribution to social security schemes |
| 3. Operating surplus of small enterprises and personal plots | 13 | -13 | | | | | | |
| 4. Primary income of the population (1+3) | 103 | -13 | +22 | - | 112 | +52 | 164 | 4. Employees' salaries |
| 5. Primary income of enterprises | 127 | +13 | -22 | -50 | 68 | +21 | 89 | 5. Operating surplus, including net indirect taxes |
| 6. Income from the net material product (= NMP) (4+5) | 230 | | | -50 | 180 | +73 | 253 | 6. Net value added = net domestic product (NDP) (4+5) |



/procedure differs

procedure differs from the two preceding approaches considered above in that the NDP is calculated instead of the GDP of SNA, a factor that is of no importance, since it is only necessary to add consumption of fixed capital.

317. Column a of table 26 contains the figures corresponding to the MPS categories. Columns b and c give the adjustments required owing to the different treatment of the two transactions in question, as pointed out earlier; however, these adjustments do not affect total MPS income, as may be seen from boxes 6,b and 6,c. Column d covers adjustments related to expenditure on non-material services by the material sphere, which simultaneously means a reduction in income from NMP. Column e shows the net value added of the material sphere and its income components adjusted in accordance with SNA. Column f contains the net value added components of the non-material sphere, which means an addition to the income from NMP. The last column (g) shows the net value added and income components in accordance with SNA.

### 3. The pattern of final consumption

318. There is a marked difference between the two systems where final consumption is concerned, both as regards classification of final consumption itself and as regards the scope assigned to each component.

319. SNA places particular emphasis on identifying the agent responsible for decisions relating to the acquisition of goods and services, in other words, the focus is on the agent incurring the expenditure. The classification adopted therefore includes: (i) final consumption expenditure of resident households; (ii) general government final consumption expenditure; (iii) final consumption expenditure by private non-profit institutions serving enterprises.

320. MPS, on the other hand, focuses more on showing the factors having an impact on the standard of living of the population, to the extent possible. With that goal, in the system's material balance, instead of a category for goods and material services required by households, a dividing line is drawn between goods and material services used in order to meet the population's individual needs and those used with a view to meeting collective requirements. Final consumption is therefore divided into two major groups. The (material) consumption by the population covers: (i) personal consumption, covering direct purchases of goods and material services by households; (ii) other types of final consumption by the population, covering goods and material services for intermediate use by the units of the non-material sphere that meet individual requirements. Other types of final current consumption cover intermediate inputs of goods and material services of institutions in the non-material sphere that meet collective requirements.

321. Moreover, on the basis of the pattern referred to above and classification of non-material services according to whether or not they meet individual requirements, MPS introduces the category of total consumption by the population in the system. This category covers both consumption by the population, in other words, goods and material services for meeting individual requirements, and the non-material portion of activities in the non-material sphere that meets individual requirements; in other words, personal consumption, plus the total value of services provided by non-material units in order to meet individual requirements (see table 29). From this point of view, the category also covers expenditure incurred by enterprises that is beneficial both to the employees and to the enterprises and services (for example, medical examinations, cultural and sport facilities, etc.) (see paragraph 270).

/322. Despite

322. Despite the fact that the pattern of final consumption expenditure in SNA facilitates the analysis of those conducting the transaction it has been criticized by various researchers;82/ the usefulness of the category of "Total consumption by the population" has been acknowledged, and that category has been recommended not only in studies on it, but also in a number of documents prepared by the United Nations Statistical Office.83/

323. The chief item being questioned is how to treat government final consumption expenditure in the case of those goods and services whose ultimate purpose is to meet individual requirements (for example, health, education, etc.). The categories used by SNA depend to a great extent on a country's institutional organization of activities. Moreover, when there is a change in the methods of institutional organization, final consumption expenditure by households cannot adequately reflect the volume of goods and services actually consumed by the population in each period.

324. This problem has a great impact on international comparability, because the institutional patterns of the countries compared may vary widely. For this purpose the category of total consumption by the population is much more appropriate for comparing consumption by the population than the category of final consumption expenditure by households. This is why the concept of total consumption by the population is used, for example, in the work of the United Nations International Comparison Project.

325. Despite this, comparability may be achieved between SNA and MPS by combining the two classifications and the respective coverages. The chief categories of the two systems may be calculated simultaneously by reclassifying the final expenditure component.84/

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82/ Mention should be made, firstly, of M. Mod and R.E. Beales, who introduced the concept of total consumption by the population in the document on statistics on consumption expenditure in various systems of national accounts and balances prepared under the auspices of the United Nations, Geneva, 1963. Also see the document by Ch. Sanders on measurement of total consumption by households, The Review of Income and Wealth, Series 26, No. 4, in which the author considers the issue in question, quoting relevant documents and giving a list of experts on the problem. Furthermore, an excellent discussion and critical evaluation of the current situation and suggestions may be found in the document by F. Petre on a vital analysis and a proposed solution, prepared for the Seventeenth General Conference of the International Association for Research in Income and Wealth, 1981.

83/ See United Nations, Statistical Commission, Total consumption of the population, E/CN.3/512, 13 June 1978; United Nations, Report of the expert group, E/CN.3/AC.9/5, op. cit., paragraph 17, and United Nations, Provisional Guidelines..., Series M, No. 61, op. cit.

84/ This approach was used in the paper prepared by INSEE of France and the Hungarian Central Statistical Office on links between SNA and MPS in the particular case of comparing the respective estimates of the two countries concerned. United Nations, Statistical Commission and Economic Commission for Europe, Comparisons of..., CES/451, op. cit. A breakdown was also proposed for SNA by F. Petre (see the work quoted in footnote 82).

/326. To

326. To illustrate the adjustments that must be made, the information on final consumption expenditure shown in table 20 must be expanded to show the type of needs or purposes that are satisfied by non-material services, the sources of financing and the cost structure for each purpose.

327. Table 27 shows the additional data on non-material services relating to purposes and financing, it being assumed, for purposes of simplification, that only households and government finance these activities. The composition of costs in material and non-material inputs for each type of utilization is shown in table 28.

328. The main categories of both systems may be determined from the data shown in table 27. In SNA, final consumption expenditure of households is 179 (the total for column a) and that of government is 31 (the totals for columns b and c). In MPS, total consumption of the population is 197 (the totals for columns a and b). The total and partial data in column d are both shown in the column on final consumption use in table 20.

329. The categories that make up final consumption expenditure in MPS are calculated on the basis of the breakdown shown in tables 27 and 28, as explained below. It should be noted that the data in row 3 of table 28 are those shown in the column on the non-material sphere in table 20; the total for material inputs (33) is the sum of intermediate consumption of goods and material services (30) and of fixed capital consumption (3) and the total for the non-material part (83) is the sum of intermediate consumption of goods and non-material services (10) and of the net aggregate value (73). The data in the totals column (c) are those shown in the row on non-material services in table 20, complemented with the detailed figures on final consumption (51) shown in row 2 of table 27.

330. In MPS, personal consumption of the population is 159; this represents direct purchases of households in goods and material services (cell 1 a, table 27). Expenditure for other final consumption of the population is 11 and refers to inputs in goods and material services of the units in the non-material sphere that meet individual needs (cell 2.1 a, table 28). The sum of these two concepts will show the total consumption of the population (or material consumption of the population), i.e., 170.

331. The activities of the units in the non-material sphere that satisfy individual needs may be broken down into services that are purchased or paid for directly by the population and those that are financed by other means. In each of these two groups of services, a distinction or estimate may also be made of inputs utilized by the material and the non-material parts; in the example shown in table 28, a value of 6 is assigned to the former (cell 2.1.1, a) and a value of 5 is assigned to the remaining ones (cell 2.1.2, a).

332. Other current final consumptions amount to a total of 22 and include material inputs of non-material services for the following purposes: 17 for intermediate consumption, 4 for collective needs and 1 for exports and gross capital formation (rows 1, 2.2 and 2.3 in column a, table 28, respectively).

333. The sum of (material) consumption of the population (170) and of other current final consumptions (22) is equal to final consumption (192). Finally, total consumption of the population (197) is obtained by adding to consumption of the population (170) the expenditure of the non-material part on non-material services for individual needs (27, cell 2.1, b, table 28).

334. Summarizing the above aspects, table 29 shows the main categories used to classify final consumption expenditure in the two systems and the adjustments that must be made to provide comparability and linkage; this presentation complements the breakdown of final consumption shown in table 23 concerning the main final expenditure categories of the GDP and the NMP.

/Table 27

Table 27

PURPOSES AND FINANCING OF FINAL CONSUMPTION EXPENDITURE

| Needs and financing / Goods and services | Individual | | Collective | Total |
|---|---|---|---|---|
| | Purchases by households | Financed by government | | |
| | (a) | (b) | (c) | (d) |
| 1. Material | 159 | - | - | 159 |
| 2. Non-material | 20 | 18 | 13 | 51 |
| 3. Total | 179 | 18 | 13 | 210 |

Table 28

COST STRUCTURE OF NON-MATERIAL SERVICES ACCORDING TO PURPOSE

| Purpose | Cost structure | | |
|---|---|---|---|
| | Material inputs | Non-material part | Total |
| | (a) | (b) | (c) |
| 1. Intermediate consumption | 17 | 43 | 60 |
| 2. Final use | 16 | 40 | 56 |
| 2.1 Individual needs | 11 | 27 | 38 |
| 2.1.1 Purchases by households | 6 | 14 | 20 |
| 2.1.2 Financed by government | 5 | 13 | 18 |
| 2.2 Collective needs | 4 | 9 | 13 |
| 2.3 Exports and gross capital formation | 1 | 4 | 5 |
| 3. Total (1 + 2) | 33 | 83 | 116 |

/Table 29

Table 29

PRINCIPAL FINAL CONSUMPTION CATEGORIES IN BOTH SYSTEMS AND THEIR LINKAGE

| MPS categories | | a | Adjustments for: Non-material part of non-material services of final consumption b | Adjustments for: Material inputs of non-material services for purposes other than final consumption c | d | SNA Categories |
|---|---|---|---|---|---|---|
| 1. Personal consumption of the population | | 159 | | | 179 | 1. Final consumption of households |
| 2. Other final consumption of the population | 2.1 Direct purchases of households | 6 | +14 | | | |
| | 2.2 Financed by government | 13 | +13 | | 18 | 2. Final consumption expenditure of government in goods and services that satisfy individual needs |
| 3. Consumption of the population (1+2) | | 170 | +27 | | a/ | |
| 4. Other current final consumption | | 22 | +9 | -18 | 13 | 3. Final consumption expenditures of government in goods and services that satisfy collective needs |
| | | | | | 31 | 4. Final consumption expenditures of government (2+3) |
| 5. Final consumption | | 192 | +36 | -18 | 210 | 5. Final consumption expenditure (1+4) |

a/ The total for each row shows total consumption of the population in MPS. The same category in SNA is shown as the column subtotal.

/335. Column

335. Column a shows the MPS categories. Column b shows the non-material part of non-material services for each final consumption concept. In view of the fact that in SNA final consumption (as well as final use) does not cover material inputs of non-material services for intermediate consumption and for uses other than consumption, these are deducted in column c (17 in cell 1, a, and 1 in cell 2.3, a, table 28, respectively). Column d shows the SNA categories.
336. The category of total consumption of the population may be calculated for SNA if government consumption expenditures are broken down as shown in the aforementioned table and in note (a) thereof.

### 4. The structure of capital formation

337. The significance and scope of gross capital formation is very similar in the two systems. Both cover capital formation of activities in the material and non-material spheres; hence, this category covers mainly goods and material services, with the conceptual differences between SNA and MPS being less important than in the case of other concepts. An exception which should be noted is the fact that SNA includes in capital formation certain non-material services, such as transfer costs in second-hand fixed asset transactions; in MPS, these costs are considered to be transfer payments.
338. The substantial differences that do exist are due, in particular, to the fact that a different criterion is applied to certain items of production and to the delimitation of its components. In this case, differences may also be attributed to the general approach of each system.
339. MPS is based on the theory that it is necessary to show separately that part of goods (and material services) which increases the national wealth as a means of extending the country's economic activities. The capital formation aggregate established to serve this purpose includes only the value of those products which increase fixed assets and stocks and excludes allowances for consumption of fixed assets or for normal damage during the period; in other words, the capital formation category in MPS is net. Losses of fixed assets that are not related with normal events in production, i.e., those due to accidental damage, major calamities or neglect, are deducted from net capital formation during the year in which they occur, but are recorded under a separate final use category of the NMP entitled "losses".85/
340. Likewise, and again as a result of the MPS approach, which stresses the increase in productive capacity, fixed capital formation covers only goods and material services that are put in service during the period, whereas construction works in progress are considered to be part of changes in stocks.
341. In principle, it may be said that SNA pursues the same purpose, although its general approach is to centre attention primarily on actual expenditure, thus defining capital formation on the basis of expenditures made by producers for goods that are not included in intermediate consumption for the period.86/ This criterion has two consequences: in the first place, the category of capital formation is a gross one and, in the second place, it affects the breakdown as regards changes in stocks and fixed capital formation.

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85/ The treatment of losses under the two systems is duscussed in chapter III.

86/ See paragraph 135 and United Nations, A System of National Accounts and Supporting Tables, Series F, No. 2, Rev.3, op.cit., paragraph 6.102.

342. The fact that SNA prefers the use of gross category does not mean that there is a basic difference between the systems, inasmuch as SNA also applies net aggregates. It is true, however, that those countries that apply SNA usually use gross aggregates to measure and evaluate the economic growth rate. This may be explained by the fact that estimates of fixed capital consumption are less reliable and that measurement criteria vary from country to country.

343. In principle, net categories should be considered more suitable for measuring the development growth rate. A net category can reflect the efficiency of fixed assets better than a gross one. When there is an increase in fixed assets but production increases at a lower rate or even declines, the difference between effort made and results obtained can be more adequately reflected by using net aggregates.

344. As regards the classification of capital formation, SNA treats construction work in progress as fixed assets, while MPS -as has already been noted- includes them under changes in stocks. SNA uses this criterion because of the view that works in progress are often used when they are only partially completed and because current payments made for construction works cannot normally be classified separately. It is also based on the view that treating the completed part of construction as fixed capital provides very useful information for analysing factors in the demand for goods. Nevertheless, SNA recognizes the usefulness of classifying the value of construction works as finished or unfinished projects in other economic analyses.87/

345. Recognizing the usefulness of the two approaches, and in order to improve international comparability, the recommendations on statistics of tangible assets suggest that disbursements for construction works in progress should be shown separately in both systems.88/

346. It should be pointed out that MPS countries also have investment statistics that cover the expenditures of the productive units for goods and material services for capital formation, but which exclude expenditures for repairs. These statistics are not a coherent part of the system of national balances but may be integrated into it and, moreover, are very useful for purposes of making comparisons between SNA and MPS.89/

347. It is worth pointing out that, in addition to the aforementioned differences, expenditure on military equipment is treated as intermediate consumption in SNA, whereas in MPS it is included in fixed capital formation. Moreover, in MPS all stocks of gold, whether for monetary purposes or not, are included in capital formation in stocks, whereas in SNA, monetary gold is treated as a financial asset.

348. Another difference, perhaps not very significant, is that -in accordance with the definition of resident units in the two systems- expenditure in capital goods by embassies, consulates, etc., is treated as capital formation of the country of location in MPS, but as that of the country represented in SNA. Similarly, expenditu expenditure in capital goods of international organizations located in the country is included in capital formation in MPS but excluded in SNA.

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87/ United Nations, A System of ..., Series F, No. 2, Rev.3, op.cit., paragraph 6.107.

88/ United Nations, Guidelines on Statistics of Tangible Assets, Series M, No. 68, op.cit., paragraph 5.4.

89/ The United Nations Statistical Office is preparing a paper on the links between these investments statistics and the MPS, as well as a detailed comparison of capital formation in the SNA and the MPS.

## 5. The borderline between resident and non-resident units

349. In SNA, resident producers are defined so that all production taking place on the domestic territory of a given country, and only that production, is encompassed (for details see paragraphs 33 to 38). In MPS no explicit reference is made to the concept of resident unit (paragraph 170), but the concept implicitly used corresponds to the SNA concept, except on the following points.

350. One of the first aspects is that pertaining to the criterion applied to embassies, consulates and similar institutions. As was noted in paragraph 348, in SNA these units are treated as resident units of the country represented, whereas in MPS they are treated as resident units in the country where they are located; likewise, international organizations are treated as non-resident units in SNA but as resident units in MPS. This question, which in principle appears to be an important one, is really of no major consequence in most countries; even in practice, the necessary information is often not available.

351. The other difference between SNA and MPS, as regards the description of resident units, occurs in the context of final consumption expenditure of households. In SNA, final consumption expenditure of households is determined according to the national concept (residents), whereas in MPS, the relevant category is based on the domestic concept (internal). This difference does not really create any problem in linking the two systems, for which it is necessary to separate imports and exports by households.90/

## 6. Classification of transactors

352. SNA uses two main classes, each with its own statistical units. For transactions relating to production and utilization of goods and services, transactors are classified according to categories of producers and the unit of observation is the establishment or equivalent unit. For transactions relating to income and outlay and capital finance, the classification is based on institutional sectors and the statistical unit is the enterprise or institution. MPS, on the other hand, uses a single classification of units for all parts of the system and the primary unit of observation is the enterprise.

353. Because SNA uses the establishment as a unit of observation and MPS uses the enterprise, there may be differences in the classification by activities of SNA production accounts and the MPS material balance. Nevertheless, in countries using MPS, most enterprises are devoted mainly to a single class of activity and moreover, those units that do engage in several kinds of activity are often split into smaller units for structural purposes. (See paragraphs 180 to 182.) Therefore, classification by class of economic activity may be considered relatively homogeneous at the aggregate levels and more limited as they are broken down in greater detail. However, this situation also arises in comparisons between SNA countries as well as between MPS countries.

354. The differences in classification relating to income and outlay and capital finance accounts in SNA and financial balance in MPS are greater in theory than in practice; the organizations covered by SNA may also be seen in MPS, since the basic

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90/ In SNA, this is calculated explicitly, as it also measures final expenditure by households on the domestic market (see paragraph 129).

information is available on an institutional basis. From this standpoint, the correspondence between the two classifications at the major sector level may be summarized as shown in table 30.

355. It should be pointed out that there is a growing demand, in both SNA and MPS countries, for the construction of complete balance accounts relating to the institutional sectors. Enterprises have played an increasingly important and sometimes dominant role in the economies of most countries, thus making it necessary to obtain complete information on all their transactions as a whole, including those pertaining to production.

356. Chapter IX of the SNA puts forth the concept of the "key sector", according to which enterprises constitute the unit of classification for all parts of the system. However, this solution appears inadequate and it must be stressed that the standardized accounts system must explicitly include production accounts for each institutional sector. When drawing up the European Accounts System, EUROSTAT recognized the advisability of establishing production accounts with respect to enterprises and there seems to be wide support for their formal inclusion in SNA.91/ The analytical and operational advantages of such an approach are discussed in paragraph 85 above.

357. In practice, MPS countries usually solve this problem by regularly compiling the data on production and cost structure, capital formation and financial balance (total or partial) on the basis of enterprises, classified according to their main activities.

### 7. The accounting structure and scope of the systems

358. From the presentation and names of the two systems, it would appear that their accounting structures were quite different: SNA is based on accounts and MPS is constructed on balances. However, an analysis of the scope of the two systems will show that the difference is more one of formal presentation than of content. On the one hand, SNA accounts are basically operating balances and, on the other hand, the more comprehensive balance of MPS, i.e., the financial balance, may be compiled in account form, as a look at its theoretical framework will show.

359. What is most important, of course, is to find the best way to reflect all the economic transactions that actually take place. There have been efforts to analyse the advantages of the solutions used in each system; what is important, however, is that some economic phenomena have not been recorded by either system. This question goes beyond the scope and objectives of this paper; we will only mention certain problems which are important because of their implications with regard to the recognition of economic realities and to decision making.92/

360. In the first place, attention is centred on activities that are not included as economic production. Special mention should be made of tasks performed within the households themselves; in some cases, it is quite difficult to distinguish between these and similar work offered on the market. It is important to stress this omission because it makes it difficult to compare levels of development between

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91/ United Nations, Statistical Commission, Future directions for work on the System of National Accounts, E/CN.3/541, op.cit., paragraphs 59 and 60.

92/ Because they go beyond the scope of this paper, we do not comment on the discussions and suggestions that have been made for expanding the scope of economic activities (see note 22 to paragraph 98).

/Table 30

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Table 30

COMPARISON BETWEEN INSTITUTIONAL CLASSIFICATION UNITS IN SNA AND SOCIO-ECONOMIC CLASSIFICATION IN MPS

| Institutional units in SNA | Primary organizations in MPS |
|---|---|
| 1. Non-financial enterprises (corporations and quasi-corporations) | 1. Enterprises, co-operatives |
| 2. Financial institutions | 2. Financial institutions |
| 3. General government | 3. Government, social security and extrabudgetary funds |
| 4. Private non-profit institutions serving households | 4. Associations |
| 5. Households including financial and unincorporated enterprises | 5. Population and economic units of homes |

countries and growth rates, even within the same country. When there is a change between observed activities and those that are omitted the picture given by the categories in question is distorted. In many cases, the high rates of development shown can probably be attributed partly to the entry of women into the labour force; their participation does indeed contribute to an increase in production on the market, but the problem lies in the fact that the observed categories reflect only this increase without at the same time recording the possible decline in women's activities within the household, which are not taken into account. There may, of course, be changes in the opposite direction, as when certain market activities become too expensive and households must sacrifice their leisure time to provide these for themselves.

361. Another important aspect is that relating to the exhaustion of natural resources. In accordance with the recommendations currently in force, natural resources that had been consumed or destroyed as a result of production are not considered inputs. In many countries, particularly the oil-producing countries, the growth rate is high because production is growing through a reduction of natural reserves, without this reduction being reflected in the development levels.

362. Some problems have arisen in connexion with the valuation of consumption in kind. Both systems recommend that this part of consumption should be valued at average producer prices of like products sold on the market. In the case of production, this seems to be a good solution because it guarantees the same valuation for the same product. In the case of consumption, however, one must ask why two similar products are valued differently; thus, in a country where consumption in kind is prevalent, its value, as well as the consumption of certain strata or classes, would be underestimated. This problem can impair international comparability and even the comparability of consumption within the same country over time. The problem can be overcome if, when measuring final expenditure,

/consumption in

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consumption in kind is also valued at consumer prices and if, in order not to go against the principle of uniform valuation of the output of each activity (mainly agriculture), the difference is treated separately.93/

363. A final problem that should be mentioned because of its importance is that which concerns the method for measuring the growth rate, although this is linked with estimates at constant prices that are not covered in this paper. SNA uses the gross domestic product (GDP) and MPS uses the net material product (NMP); essentially, these categories, expressed at constant prices, reflect changes in the volume of goods and services produced over time. The variation from one period to another is usually interpreted as a change not only in recent production but also in the availability to the country of new goods and services. This criterion is inadequate for the following reasons: (i) rapid changes in prices on the world market cause some economies to benefit and others to suffer losses; in other words, while one economy loses in trade part of its recently produced goods, another country gains more than it produces, and (ii) essentially, an economy transfers part of its goods when it pays interest on loans, while the other country receives goods when it receives interest payments. (This may be illustrated by the example of a canoe which is moved not only by the person rowing it, but also by the wind and the sea current.)

364. In this respect, it should be noted that for several years, CEPAL has held the view that exports and changes in their purchasing power, as well as the related concept of real gross national income, are fundamental to any analysis of economic growth. In preparing its country estimates and its estimates for the region as a whole, it has taken into account both the terms of trade and real gross income.94/

### 8. Some problems of comparability between the flows recorded

365. The categories or aggregates that are to reflect the economy of a given country and its structure are not independent of the institutional organization of its society and economic system. The institutional system of a country directly influences the level and structure of its main macroeconomic aggregations and when comparisons are made between countries, institutional differences affect comparability even when the countries compared apply the same national accounting system. The greater the institutional differences, the greater will be their influence on comparability; this is the situation that arises when comparisons are made between countries with centrally planned economies and countries with market economies.

366. In principle, and in order to improve comparability between systems, one might try to eliminate such differences; however, apart from the practical difficulties involved, the question arises whether the results thus obtained would reflect reality, because the existing institutional arrangements are inherent and characteristic factors of a given country at a given moment. Therefore, one possibility is to acknowledge their existence; however, since in certain areas the differences are considerable, it is advisable to point out and analyse the most important ones in order to facilitate the subsequent interpretation of the categories compared.

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93/ This solution has been adopted in the system of balances of Hungary and the difference is treated separately, as import duties.

94/ See CEPAL, Anuario Estadístico de América Latina, Estudio Económico de América Latina and América Latina: Relación de precios de intercambio, Series Cuadernos Estadísticos, No. 1, Santiago, Chile, 1976.

(a) The pricing system

367. The pricing system is one of the key factors in any country's economic relations. Every country has the possibility of operating with prices that are not necessarily equivalent to the real value of the work done and the inputs used in all activities; this is more likely to be the case in a country with a centrally planne economy.

368. Prices affect not only the absolute levels of the different aggregates or categories, but also the structure of the relevant estimates. In the socialist countries, prices in agriculture and services (a typical case is that of rental housing) were, or are, generally lower than prices of other goods; in such cases, it may be assumed that the real share of these activities is greater than that shown by the relevant estimates. In some countries, prices of consumer goods may be subsidized or heavily burdened with taxes; in such cases, estimates made by the usual methods will not give a true picture of the actual expenditure which the economy channels to final consumption of goods and services.

369. Certain questions that particularly affect comparability between systems, as well as the possible implications in each case of the different price relations or structures are discussed below.

(b) Market and non-market activities

370. Apart from the problem arising from the fact that certain subsistence activities of households are excluded from both systems, estimates of production and of related categories are also affected by the fact that in each country there may be differences, among activities included in the estimates, in the share of those carried out within the market and those that are not marketed.

371. Let us take, for example, two economies. In one of them, activities pertainin to decision-making concerning production and capital formation, those pertaining to research and development, and personnel training are all carried out by the same enterprises. In the other economy, on the other hand, all these activities are provided, but not sold, by the public administration; professional training is provided by the public education units and the others by other budgetary units. Thus, in the first economy, the structure by class of activity will show a lower share of services of the public administration and a higher share of other activitie than the corresponding activities in the second economy. Moreover, the GDP or the NMP -as the case may be- as well as final expenditure will be larger in the second economy than in the first.

372. In the same way, educational and health services may be provided by market units in one country and by government units in the other. Because government activities are valued at operaing cost, in a country where such services are predominantly produced by public units, their production and final consumption values will be underestimated in a comparison with other countries where such services are predominantly provided by units operating on the market.

373. Moreover, a larger share of non-market activities provided by public administration entails greater costs to the government, which must be financed by income produced in "other activities". In countries using MPS, these activities could not belong to the non-material sphere, since the activities of this sphere are mostly non-profit. Hence, prices in the material sphere must, in such cases, be relatively higher than those in the non-material sphere; consequently, the proportions of the operating surplus of the material sphere, including indirect taxes, must be higher than those of the non-material sphere.

/(c) Banking

(c) Banking services

374. There are differences in the organization and function of financial institutions because in some countries most of these institutions are independent from the public administration, while in others they belong to government and function as government agencies.

375. Countries that apply SNA to value non-explicit financial services have adopted the solution of including in the gross output of these activities an imputed commission that is equivalent to the difference between income from property received from loans and other investments made with deposits and the interest payments made to depositors. Likewise, this imputed output is treated as an input of a fictitious unit.

376. This solution raises the question whether the valuation method adequately reflects every activity carried out by the financial institutions. When real commissions for banking services and, primarily, interest rates for domestic transactions are linked to those of the international market -in other words, when they are not arbitrary-, financial activities show a significant operating surplus which may be considered to be a real indicator of factor income in this area. This usually happens in countries where most of these institutions are independent.

377. On the other hand, in countries where these institutions operate as part of the government, the interest rate on domestic transactions for loans to enterprises and, mainly, to government, is arbitrarily very low and sometimes certain government debts to the banks are cancelled in the books without any financial movement actually taking place. In such cases, the "financial margin" does not represent the level of activities of these institutions; in some cases, it may change from one year to another and in extreme cases it may be negative, even though the level of activity may have been greater.

378. These facts show that the imputed valuation of banking services recommended by SNA does not always adequately show the level of activity of these services, the organization or operation of which is closely linked to the institutional organization.

379. Moreover, the SNA suggestion that imputed banking services should be treated globally as inputs of economic activities has been causing problems of interpretation, because, by appearing as intermediate consumption of an artificial sector, they happen at the same time to constitute a negative element of the total aggregate value of the economy, which is somewhat difficult to explain. Obviously, the output of banking services may be treated as an input of financial services -instead of being imputed to a fictitious unit- but in this case, the operating surplus of the financial institutions would be negative in most countries, inasmuch as the cost of these activities is usually higher than the income obtained for actual services (commissions), particularly in countries where these activities are relatively developed.

(d) Income of employees and workers

380. Both systems try to present and measure income from work. Because the central problem is particularly linked to the criterion to be applied to compensation of workers, we will not consider the differences that arise between the two systems in the case of income received from private plots and small private enterprises.

381. In MPS, the primary income of the population, including members of co-operatives, covers salaries and wages (both in cash and in kind), before any deduction is made for taxes on income from work or for the social contribution paid by the employee. Social contributions paid by employers are excluded from this

/category and

category and are treated as indirect taxes. In addition, there are institutional differences in these countries in connexion with the choice between levying on workers social charges and taxes on the income from their work or levying indirect taxes on enterprises; this creates differences in the levels and structure of the components of income from material production.

382. In MPS countries where the proportion of taxes on work is high, the income from work and its share in the income from material production will be higher than in countries where such taxes are low, even though available personal income and final expenditure of households may be the same in both countries.

383. Let us take as an example the extreme cases of two countries: country A chooses to levy only indirect taxes on enterprises to finance social assistance, whereas country B chooses to levy only taxes and contributions on the income of workers for the same purpose (see table 31). In both countries, the global social product is equal to 100 and, for purposes of simplification, it is assumed that there is no intermediate consumption; final consumption of the population amounts to 70 and capital formation is 30. In country A, salaries and wages are equivalent to 40; there is no deduction for taxes on income from work and enterprises pay 30 as indirect taxes to government which are used by the government to provide social benefits for the population. In country B, salaries and wages are equivalent to 70, charges on income from work (taxes and contributions) amount to 30 and are paid to the government by employees; this amount is also used for social benefits. In conclusion: the income for work in country B is greater than in country A, even though available personal income and final consumption of the population are the same in both countries.

384. The corresponding category in SNA is compensation of employees, which includes employers' contributions to social security funds and salaries and wages. The content of this category actually represents a "cost" of work, since the employers' contributions to social security funds can hardly be considered "income" of an employee.

385. This approach is more suitable from the standpoint of comparability, since the social contribution of employers includes not only the amounts actually paid, but also the imputed contribution. However, it is not easy to define this scope of what is meant by the cost of work and the relevant valuation method; it seems obvious that social benefits should be considered, but it is not clear whether other costs, such as professional training, should also be included. This issue goes beyond the scope of this paper and therefore we will merely try to suggest an acceptable adjustment procedure for calculating compensation of workers in SNA.

386. In MPS countries, the objective of the social contributions of employers usually is not to make the payments as such; but rather to influence the income of the enterprises; social benefits are almost always greater than the contributions made by employers and employees. With this in mind, it is suggested that the employers' contributions to social security should be defined as the difference between social benefits paid to individuals and contributions made by workers. This solution, although far from ideal, is recommended in order to arrive at an approximate "cost" of social benefits, rather than waiting for the ideal theoretical solution to appear.

/Table 31

Table 31

ALTERNATIVE TREATMENT INCOME FROM LABOUR IN COUNTRIES APPLYING THE MPS

| Concept | Country A | | | | Country B | | | |
|---|---|---|---|---|---|---|---|---|
| | Enterprises | Population | Government | Total for the nation | Enterprises | Population | Government | Total for the nation |
| Goblal social product = income of material production (IMP) | 100 | | | 100 | 100 | | | 100 |
| Primary income of the population | -40 | +40 | | | -70 | +70 | | |
| Indirect taxes, including employers' contributions to social security funds | -30 | | +30 | | | | | |
| Taxes on income from work | | | | | | -30 | +30 | |
| Social benefits | | +30 | -30 | | | +30 | -30 | |
| Available income | 30 | 70 | | 100 | 30 | 70 | | 100 |
| Final consumption of the population | | 70 | | 70 | | 70 | | 70 |
| Capital formation | 30 | | | 30 | 30 | | | 30 |

/III. CONVERSION

## III. CONVERSION OF ESTIMATES OF GOODS AND SERVICES FROM THE MATERIAL PRODUCT SYSTEM (MPS) OF CUBA TO THE SYSTEM OF NATIONAL ACCOUNTS (SNA)

387. In this chapter consideration is given to the similarities and differences which exist in Latin America in the practical application of systems of national accounts (SNA) and balances of the national economy (MPS), for the purpose of showing the information and kinds of adjustment needed to convert the estimates of goods and services from one system to the other.

388. Consideration is first given to some questions of a general nature, following which there is a detailed analysis of the aggregate principles which comprise the estimates of goods and services of both systems, with emphasis on the steps needed to change the categories used in one accounting system to those used in the other. To make the conversion, the categories used in MPS in Cuba are taken as a point of departure, and the adjustments needed to convert to the SNA are identified in accordance with the practices which are considered to be most widespread among the countries of the region using the system. To carry out the exercise the other way round, i.e., to convert the SNA estimates of a Latin American country to MPS estimates, the same adjustments would be required but from the opposite side.95/

### 1. General aspects and basic concepts

#### (a) Statistics available in the Latin American countries

389. Although the two annexes to this document contain a summary of the methods, procedures and sources of information used by the countries of the region for the estimates contained in SNA and, in the case of Cuba, in MPS, attention should be drawn to the fact that in Latin America the availability of basic economic statistics for macroeconomic calculations of goods and services differs from country to country.

390. It is therefore appropriate to draw attention to the following aspects of the question, limiting our analysis to the ground covered by estimates of supply and use of goods and services and the composition of the value added (estimates which are contained in this chapter).

391. In the case of Cuba, the economic and social order makes it necessary to have balances for each year for purposes of economic analysis and, primarily, for centralized planning. The fulfilment of such requirements is, on the one hand, mainly related to the presentation of the material balance, whose calculation is greatly facilitated by the fact that emphasis is placed and attention focused on the production side of the activities in the material realm. Moreover, the country's institutional organization offers the possibility of preparing this and the other balances since the majority of the economic activities are carried out in State enterprises and in budgetary units, which, for monetary and planning purposes, are usually required to submit very detailed figures. This situation facilitates the statistical work and makes it possible to base the balances for each year on very full data covering the year under consideration.

392. In the other countries of Latin America, the availability of basic economic statistics varies from country to country, depending on, among other things, the role assigned to the national accounts in economic analysis and planning and on

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95/ See paragraphs 10 to 13 in the Introduction.

/the possibilities

the possibilities of obtaining full and detailed information on all the economic activities. This means that the basic statistics are dissimilar and that the possibilities for obtaining and processing them are also different.

393. Consequently, virtually all the countries of the region may have certain direct information for each year available to them, but this information does not cover all or the majority of the economic activities every year. Therefore, the different aggregates of the national accounts are based primarily on the detailed calculation for a year of reference (usually not always the same year for each economic sector or for each component of the final demand), in which economic censuses, full periodic surveys or special research projects have been carried out. On the basis of the calculation for the year of reference, the basic procedure is to prepare the production accounts and various support tables recommended under SNA, which constitute the point of departure for calculating the annual series.

394. Consequently, there are differences both in the range of data utilized for the national accounts or balances and in the manner in which they are produced. Thus, for example, in Cuba direct statistical information predominates, and the estimates usually play a less significant role. On the other hand, in the rest of the countries of the region it may be said that, in general, it is the statistics obtained from samples or special surveys and the procedures used in indirect calculations which have the greatest impact on the annual estimates.

(b) Statistical units under observation

395. Although it is acknowledged that, in theory, the various observation units used by both systems for classification by economic activity do not actually create greater problems of comparison at very aggregate levels (see paragraph 353), attention should be drawn to the situation found in the countries of the region. In Cuba, in accordance with the recommendations of each system, the unit studied is the enterprise, while in the other Latin American countries it is the establishment or the establishment-type unit.

396. Although in Cuba enterprises may be treated as units which, up to a point, are alike in respect of their economic activities, some problems arise in connexion with those units engaged in more than one category of economic activity. This is due to the fact that, in general, separate data are not available on the production of establishment-type units within a single enterprise, except in the case of enterprises whose secondary production is marketed or utilized for its own fixed capital formation.96/ This situation becomes relevant when the production of an enterprise is vertically organized, which happens in virtually all the activities of the material sphere, excepting agriculture, for which statistical data is available by product. On the other hand, this fact has no bearing on the non-material sphere, since it is made up of budgetary units of the establishment type.

397. Moreover, although in those countries of the region which apply SNA, the establishment is used as a unit of observation, certain problems also arise when a statistical unit carries out various types of economic activity which cannot be separated, in which case they are classified in the branch to which the main activity belongs.

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96/ At present an input-output table is being prepared, for which aggregates based on detailed information by establishment and product must be collected.

/398. These

398. These differences between units of observation affect the estimates of some aggregations such as gross output in SNA or global social product in the MPS, intermediate consumption and the structures of GDP and NMP, so that the comparability between Cuba and the rest of the countries is limited to some extent.

(c) Internal and national concepts

399. The internal and national concepts are practically the same in both systems, since in nearly all transactions the same transactors are considered to be resident units, the only exception being the differences referred to above concerning the treatment of embassies and similar bodies and the scope of final household consumption.

400. In the case of embassies and similar bodies (see paragraph 350), however, there are no conceptual differences in Latin American practice since the treatment applied in Cuba is the same as in the rest of the countries in that these units are considered to be residents of the country they represent, as recommended in SNA.

401. Nevertheless, a difference is observable in the manner of considering transactions of embassies and consulates in that whereas in those countries which apply SNA transactions are divided into flows and capital, in Cuba all expenditure is treated as flows. Moreover, there are also variations in respect of international bodies in that in Cuba the contributions of the government for financing units located in the country are included in the consumption expenditure of the government whereas in the rest of the countries they are recorded as transfers. These differences are considered to be of little significance in practical terms and for that reason have not been taken into account among the conversion adjustments envisaged in this document.

402. Moreover, as recommended, technical assistance and certain activities carried out by producers of government services which are provided free to other countries, such as food, clothing and other civil assistance or military equipment grants should be considered to be tranfers in kind and included only in the intermediate consumption of the recipient country. In practice this is difficult however, because it is the donor country which ordinarily has the information on the cost of these grants.

403. In this respect, countries which apply SNA usually make some estimates concerning grants received, but these calculations are probably only approximations owing to insufficient information on the cost of the aid they receive and, by the same token, it may be that in many cases the total or partial amount of these transfers is not included in the final expenditure of either the recipient or the donor country. In Cuba the expenses incurred by the government abroad for these purposes are recorded in the expenditure ot its budgetary units. These differences affect the government production and consumption variables, but since full information is not available concerning the actual application of these recommendations and the data needed to introduce changes in the present estimates of the countries of the region do not even exist, it has been decided not to propose any adjustment in this respect.

404. In the case of households (SNA) and population (MPS), there is an important difference in the treatment of resident units which affects the consumption, exports and imports categories. In Cuba the consumption of the population in terms is, as specified in MPS, based on a domestic concept whereas in the rest of the countries, which use SNA, the final consumption expenditure of households is defined in terms of the national concept (see paragraph 351) although the domestic concept is recognized as well.

/405. Consequently,

405. Consequently, for purposes of making comparisons between systems, it is proposed that, in order to convert the Cuban estimates, an adjustment be made with regard to the final consumption of the population and to exports and imports, corresponding to direct purchases of households not resident in the country and to direct purchases of households resident abroad, with a view to changing from the domestic (internal) concept to the national concept.

406. One aspect which does not affect the adjustment proposed but which may be worth noting is that in some cases it is not always possible to apply the SNA recommendations fully due to lack of detailed and adequate information. An example which may be cited is that of a resident individual working abroad in respect of whom the only information available relates to savings deposited with no data concerning wages earned or consumption expenditure made outside of the country, for which reason a net treatment is applied to him.

407. It should also be pointed out that although grants in kind for household (SNA)/population (MPS) consumption to and from the exterior are not treated equally in both systems, they are, in practice, given the same treatment throughout Latin America. That is to say that they are considered to be exports or imports, respectively, and as final household/population consumption of the recipient country, and for this reason no adjustment is required in connexion with them. Grants in kind to and from the exterior for other purposes (investment, for example) are considered to be exports and imports, respectively, throughout the region.

408. It should also be noted that in Cuba, in accordance with MPS, import tariffs on direct purchases of the population abroad and on grants in kind which it receives are not considered to be indirect taxes but are treated as redistributive payments, i.e., as transfers in the SNA meaning. The modifications which produce this difference, so that such import duties may be included in indirect taxes and in the value of non-material services purchased by households, are not explicitly referred to in the conversion keys given below since they are included in the global adjustments of the corresponding transactions.

(d) Limits of production

409. The main difference in the coverage of the production category obviously consists in the fact that in the MPS non-material activities are not considered to be productive and are therefore excluded from the production category in Cuba, but are included in the rest of the Latin American countries which apply SNA.97/ On the other hand, with respect to material activities, in the MPS sense, only in a few cases are differences observed between the two systems as they are practiced in the Latin American countries, and these differences are analysed below when details are given concerning the conversion adjustments made in each category or aggregation.

410. Table 32 contains details on the activities of ISIC, which in Cuba were classified as non-material and must be borne in mind when changing the estimates of one system to the other system among the countries of the region. With regard to this list of activities considered to be non-material, attention should be drawn to the following aspects, which will be referred to in the following paragraphs.

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97/ For the conceptual difference between SNA and MPS, see paragraphs 291 to 294.

/Table 32

Table 32

LIST OF ACTIVITIES TREATED AS NON-MATERIAL IN CUBA a/

| ISIC Code | Title |
|---|---|
| 632 | Hotels, rooming houses, camps and other lodging places |
| Part of 7191 | Tourist agencies and tourism development services only |
| 810 | Financial institutions |
| 820 | Insurance |
| 831 | Real estate, from which the following are separate:<br>- residential services of owner-occupied units<br>- residential services of rented units |
| 8321 | Legal services |
| 8322 | Accounting, auditing and bookkeeping services |
| Part of 8323 | Only data processing and tabulation services on a fee basis (in other words, excluding services on a contract basis) |
| 8325 | Advertising services |
| 8329 | Business services, except machinery and equipment rental and leasing, not elsewhere classified |
| 910 | Public administration and defence |
| 920 | Sanitary and similar services b/ |
| 931 | Governmental education |
| 932 | Research and scientific institutes |
| 9331 | Medical, dental and other health services |
| 934 | Welfare institutions |
| 935 | Business, professional and labour associations |
| 939 | Other social and related community services |
| 941 | Motion picture and other entertainment services, except 9411 (motion picture production) |
| 942 | Libraries, museums, botanical and zoological gardens, and other cultural services not elsewhere classified |

a/ Classification of non-material activities corresponds to the proposals for converting Cuban figures in accordance with SNA.

b/ Includes part of 4200 where the free distribution of water to the population is concerned.

/Table 32 (concl.)

Table 32 (concl.)

| ISIC Code | Title |
|---|---|
| 949 | Amusement and recreational services not elsewhere classified |
| 953 | Domestic services |
| 959 | Miscellaneous personal services |

411. In Cuba, as in a number of other countries using MPS, for practical reasons passenger transport and all communications are treated as material activities (see paragraph 165) and are therefore not included among the non-material activities in the table referred to.

412. According to the United Nations document on comparability of SNA and MPS, certain types of activities included under engineering, architectural and technical services, specifically those unrelated to construction (part of ISIC group 8324) should be taken into account in linking the two systems.98/ In principle, these activities are treated as productive, and in MPS are therefore included in the sphere of production and, consequently, do not require any adjustments.

413. In Cuba the units providing health and education services and that are supervised (monitored) by the military establishment are classified together with the other pertinent units providing such services in the corresponding ISIC activities (groups 9310 and 9331, respectively). In accordance with SNA the same criteria should be used, but in general the necessary information is not available separately.

414. In SNA services relating to owner-occupied dwellings are regarded as an activity forming part of economic production.99/ In MPS, on the other hand, such residential services are not regarded as an activity and are therefore not included by definition among activities in the non-material sphere. For that reason, and for the purposes of comparability between Cuba's estimates and those of SNA, the services in question have been expressly included in ISIC code 831 in the list of activities in table 32.

## 2. Criteria for assessing production

### (a) General approach

415. In the material sphere, marketed output, which has virtually the same scope in SNA and MPS, as mentioned earlier, is assessed in both systems at market values at prducers' prices, it being possible, furthermore, in a number of countries to obtain estimates at approximate basic values. The assessment of unmarketed output is also carried out in a similar way, average producers' prices of articles sold on the market being used in all countries, in principle.

416. Marketed output in the material sphere covers similar activities in all countries in principle. Own-account construction of capital goods and agricultural

98/ United Nations, Comparisons of ..., Series F, No. 20, op.cit., paragraph 3.12.

99/ See paragraph 108 and United Nations, A system of ..., Series F, No. 2, Rev. 3, op.cit., table 5.2.

production and full processing for own-account consumption are included, whereas other types of subsistence production are taken into account only in countries where they are significant (for example, fisheries and hunting products and other miscellaneous manufactures).

417. With regard to activities in the non-material sphere that should be included in Cuba in order to convert Cuban estimates to SNA, it is suggested that the criteria recommended by that system should be followed as a general method. In other words, in the case of the marketed portion, market prices should be used and, in the case of unmarketed output, cost levels.

418. In Cuba the unmarketed part of the non-material sphere essentially covers the activities of budget units and similar units and those of associations, in other words, the products of governmental services and producers of non-profit private services to households, using SNA terminology.

419. In the following sections consideration is given to a number of transactions in which there are differences in assessment of production and the proposed solutions relating to a number of services in the non-material sphere with a view to achieving improved comparability of the estimates of the two systems.

(b) Own-account construction of capital goods

420. Production of fixed assets for own use (construction, machinery and other production equipment) should be assessed in accordance with SNA at producers' prices of the same groups sold in the market; however, owing to practical difficulties, it is likely that in many cases, particularly in the case of machinery and equipment, the method of assessment used by countries using SNA corresponds to total costs incurred.

421. In Cuba such output is normally assessed at the prices of similar products sold in the market, the prices in question being easily obtainable, since the prices of enterprises specializing in production of the products in question are officially approved. If there is not a similar product in the market, the assessment is made on the basis of cost. In the case of construction the value of output is the sum of the values of various types of inputs, whose official prices are also known.

422. It may be seen from the foregoing that the elements required for establishing in which instances there are really differences in the assessment basis are not available. For that reason, and, furthermore, because in principle it is considered that such differences are unlikely to be significant, in this first attempt at comparability it was decided that this problem should not be taken into account in the conversion process.

(c) Goods and services sold at prices below cost

423. In MPS a special problem arises in the assessment of goods and services sold at prices covering only a small proportion of their cost. In the United Nations document on the comparability of the two systems it is suggested that "for adjusting MPS data to SNA concepts certain goods and services which in most MPS countries are sold at prices that cover only a small proportion of total cost, notably medicines and housing services, should be valued at explicit cost, rather than at the prices actually paid by the consumers".100/

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100/ United Nations, Comparisons of ..., Series F, No. 20, op.cit., paragraph 3.24.

/424. Although

424. Although implementation of this recommendation could give rise to varying treatment in the same circumstances, owing to the fact that it is difficult to determine the level of this small proportion, for practical purposes of comparison between the two systems it seems acceptable that goods and services sold at low prices should be valued at their explicit cost, rather than at market prices. In the context of this approach the particular case of housing services is commented on in detail in the following section.

(d) Residential services

425. According to SNA residential services (housing) should be valued on the basis of market rents, in other words, they should be calculated on the basis of the rent actually paid, and services for owner-occupied dwellings should be calculated on the basis of the rent paid for similar dwellings (paragraph 108). The operating surplus is implicitly included in the gross output of such residential services.

426. In the case of Cuba, implementation of the SNA recommendations gives rise to a number of problems. Most housing rented is State property and there is no relationship between cost and the rent paid, since the rent is set on the basis of the occupiers' wages or salaries and must not exceed 10% thereof or 10% of family income and, in a number of cases, the occupier pays no rent at all. Consequently, rents are extremely low and cover only a small proportion of the total cost.

427. If the rent actually paid were the basis for estimating the gross output of owner-occupied dwellings, in most cases the cost would not be covered because rents are so low. Consequently, there would be an ostensible negative operating surplus that would be difficult to interpret, and it would therefore be preferable in the case of owner-occupied dwellings to make the evaluation at the level of explicit costs (including consumption of capital).

428. If the latter services are valued at their cost and publicly owned residential services are assessed at the level of rent actually paid, the valuation of the two types of services would be different. In order to avoid this situation it is proposed that all residential services should be valued at the level of cost (including depreciation). This means that the entire gross output of residential services does not include any operating surplus.

429. The valuation at cost of publicly owned residential services is also advantageous from the analytical point of view, since it permits adequate reflection of the government contribution to final consumption by the population, owing to the fact that the difference between the actual rent and the explicit cost appears as another form of final consumption to meet the population's needs. Moreover, this solution offers a possibility of analysing the role played by this government contribution in final consumption and in the income of the population, on the basis of socio-economic groups and family incomes.

(e) Banking services

430. The approach recommended by SNA for estimating the value of non-explicit services of financial institutions (with commission) and the implications that its wide-spread implementation would have in a number of countries, chiefly where banks act as institutions providing government services, was considered earlier in paragraphs 374 to 379.

431. Taking account of these general considerations on this topic and the fact that they actually are in keeping with the situation as regards financial

/activities in

activities in Cuba, where even in earlier years enterprises did not pay any interest on loans they obtained, it has been considered more appropriate for the purposes of conversion of Cuban estimates to SNA to suggest and use valuation of banking services at explicit cost, instead of calculation of a commission equal to the difference between the interest received and paid.

(f) Unmarketed non-material activities

432. Although in the case of unmarketed non-material activities, such as government services, valuation at the cost of production of the services in question is regarded as the solution, the need to make an adjustment in the method of calculating the cost of remunerating employees arises. This adjustment relates to the employers' social security contribution, whose nature and method of calculation was considered in chapter II.101/

(g) Tips

433. In SNA tips are included in the value of gross output (see paragraph 105) whereas in MPS they are not taken into account in valuation of the global product (see paragraph 263) or in redistributive payments (transfers).102/

434. The discrepancies arising from this different treatment of tips have been omitted from the adjustments proposed in this document owing to the fact that, on the one hand, in Cuba tips are unusual and there is no information available in that connexion and, on the other hand, there is no adequate knowledge of the extent to which tips are measured in the other countries of the region that use SNA.

(h) Market values and approximate basic values

435. As already mentioned, the value of output at producers' prices may be expressed both in market values and in approximate basic values.103/ Where the total levels of the principal aggregates are compared for the whole of the economy, for example, GDP in SNA or NMP in MPS, the treatment given to net indirect taxes does not, in principle, constitute an obstacle to comparisons. In contrast, where the comparative analysis concerns the pattern of output, either by type of economic activity or by expenditure component, it is extremely important to take account of the way in which these taxes are treated.

436. Basic values permit a more homogeneous valuation, not so much as regards various parts of the accounting systems, but as regards participants in the production system and the various categories of final purchases. This method of valuation therefore offers a better possibility for comparison among countries of the origin and destination of products, regardless of whether the accounting system used is SNA or MPS, and it is consequently suggested that its use among countries of the region should be promoted.

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101/ See number 8. (d) of chapter II, specifically paragraph 386.

102/ In that connexion, it is necessary to revise the latter part of paragraphs 3.15 (d) of United Nations, Comparisons of ..., Series F, No. 20, op.cit.

103/ Market values include total indirect taxes, less subsidies, whereas approximate basic values exclude indirect merchandise taxes, less subsidies, on gross output. Taxes and subsidies on merchandise include taxes that are proportionate to the quantity or value of merchandise produced or sold; they both vary according to difference in use and type of purchaser in the case of one type of merchandise, or according to the composition of different types of merchandise in the case of one kind of activity or expenditure category.

/437. In

437. In that connexion, it is interesting to note that in Cuba the fundamental purpose of taxes is more to regulate consumption through price differences, since goods and services that are of major importance to consumers are essentially those that are subject to rationing, and their prices are low in comparison with production costs and with the prices of goods that may be purchased freely. A similar situation may be noted in a number of other Latin American countries where the purpose of a number of taxes on the value of merchandise or of subsidies is to discourage or promote consumption of certain goods by households or expenditure of a number of socio-economic categories.

### 3. Gross output (SNA) and global product (MPS)

438. The adjustments that are required in order to convert the MPS global product into SNA gross output are set forth and analysed below, and summarized in table 33.
439. The first column of table 33 contains the codes used in this document to represent the proposed adjustments, and column 2 contains the respective elemental flows or transactions involved in this case. Column 3 is based on the global product (MPS), and the steps required in order to calculate gross output (SNA) at the bottom of that column are given. The remaining columns show the impact that these adjustments relating to production have simultaneously on other aggregates, in order to reflect the accounting interrelationships that exist and, at the same time, to anticipate the way in which such adjustments are integrated into the operational machinery for conversion of the aggregates in question that is described in detail further on.

#### (a) Services in the non-material sphere

440. The basic adjustment required for changing the MPS global product into SNA gross output consists in incorporating the sphere of output into total services provided as a result of activities in the non-material sphere (adjustment code for the whole:N). The detailed list of activities regarded as non-material in Cuba is given in table 32.
441. In order to take account of the effects that the services in question have, according to their use or destination, on various aggregates, these services are divided into six groups: intermediate use in the material sphere ($N_1$) and in the non-material sphere itself ($N_2$), direct purchases by the population for final consumption ($N_3$), government-financed final consumption meeting the population's individual needs ($N_4$) and collective needs ($N_5$) and, lastly, for exports ($N_6$).
442. It should be pointed out that it is understood that the value of production of non-material services already takes account of the adjustments referred to above relating to valuation at explicit cost of services marketed below cost (see paragraph 424), including the adjustment relating to residential services (see paragraph 428), the adjustment relating to measurement of banking services in the same way (paragraph 431) and the adjustment relating to calculation of the employers' social security contribution (see paragraph 432).

#### (b) Cost of food and beverages consumed in restaurants and cafés

443. In countries implementing the SNA recommendations, restaurants and cafés are treated similarly to units producing goods; in other words, their gross output and intermediate consumption include the value of food and beverages bought for the provision of service (see paragraph 111). In Cuba, in accordance with MPS, account is taken only of the marketing margin of the activities in question (see

/Table 33

Table 33

CONVERSION OF MPS GROSS OUTPUT TO SNA GROSS OUTPUT AND IMPACT OF ADJUSTMENTS ON OTHER AGGREGATES

| Code | Adjustments: Transactions | Global product (MPS) | Impact on: Intermediate consumption, excluding consumption of capital | Consumption of capital | Net material product |
|---|---|---|---|---|---|
| $P_1$ | **Material sphere:** | | | | |
| | Cost of food and beverages consumed in restaurants and cafes | (+) | (+) | | |
| $P_2$ | Scrap and waste as manufacturing by-products | (+) | ( ) | | |
| N | **Non-material sphere.** Total output of services for: | | | | |
| $N_1$ | Intermediate consumption in the material sphere | (+) | (+) | | |
| $N_2$ | Intermediate consumption in the non-material sphere | (+) | (+) | | |
| $N_3$ | Final consumption purchased by the population | (+) | | | (+) |
| $N_4$ | Government-financed final consumption for individual requirements | (+) | | | (+) |
| $N_5$ | Final consumption for collective needs | (+) | | | (+) |
| $N_6$ | Exports | (+) | | | (+) |
| | Growth output (SNA) | | | | |

/paragraph 261).

paragraph 261). It is therefore suggested that an adjustment corresponding to the purchase value of the food and beverages used in the establishments in question for providing the relevant services should be made (adjustment code: $P_1$).

(c) Waste materials sold by production units

444. In SNA the sales value of scrap and waste obtained as current manufacturing by-products (not from second-hand goods) is included in gross output (see paragraph 112). In the case of Cuba, such goods are deducted from intermediate material consumption and valued at the level of the prices of similar products (see paragraph 262). Consequently, it is necessary to make an adjustment in the conversion (adjustment code: $P_2$).

(d) Gross output in foreign trade

445. On the basis of SNA, MPS gross output in foreign trade corresponds to the gross margins of commerce related to exports and imports of goods. Since, in valuing this type of output, Cuba uses the first method recommended in MPS,104/ which is the same as that suggested in SNA, there are no differences between gross output and the global product and, consequently, no adjustments are required.

(e) Second-hand goods purchased from households

446. According to the United Nations document on comparability, treatment of second-hand goods acquired from households/from the population differs in the two systems.105/ Everything appears to indicate that there is an error in the document in question, since, both in SNA and MPS, account is taken only of distributors' margins (see paragraphs 112 and 262, respectively).

447. Nevertheless, it should be pointed out that there are differences in the treatment given in the two systems to transfer costs relating to transactions concerning second-hand fixed assets. However, in the case of Cuba this difference, which also has impact on capital information (see paragraph 337), does not call for any adjustments, since the costs in question are not included in practice.

## 4. Losses

448. There are differences between the two systems in the treatment of a number of types of losses that may also be noted in the practice followed by the countries of the region: SNA divides losses into foreseen and unforeseen (see paragraph 151), while MPS classifies them according to whether or not they are linked with normal production factors (see paragraph 339).

449. Table 34 summarizes the way in which losses are treated in the two systems, which is considered in detail below, and, in addition, gives the categories that should be adjusted owing to the differences in question in order to transform Cuban estimates to SNA.

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104/ See paragraph 286 and footnote 75.

105/ United Nations, Comparisons of ..., Series F, No. 20, op.cit., paragraph 3.15 (c).

/Table 34

Table 34

TREATMENT OF LOSSES AND CONVERSION FROM MPS TO SNA

| Type of loss | Treatment in: SNA | Treatment in: MPS | Code | Conversion adjustment: Aggregate | Conversion adjustment: Effect |
|---|---|---|---|---|---|
| 1. Losses owing to normal occurrences in the production process | | | | | |
| - In stocks | Intermediate consumption | Intermediate consumption | | | |
| - In fixed assets | Consumption of fixed capital | Consumption of fixed capital | | | |
| 2. Losses owing to accidental damage | | | | | |
| - In stocks | Intermediate consumption | Losses | $L_1$ | Intermediate consumption | (+) |
| - In fixed assets | Consumption of fixed capital | Losses | $L_2$ | Consumption of of fixed capital | (+) |
| 3. Losses owing to natural disasters | | | | | |
| - In stocks | Capital losses | Losses | $L_3$ | Variations in stocks | (+) |
| - In fixed assets | Capital losses | Losses | $L_4$ | Formation of fixed capital | (+) |
| 4. Discontinued construction | Capital losses | Losses | $L_5$ | Formation of fixed capital | (+) |
| | | | $L_1$ to $L_5$ | Losses | (-) |

/(a) Losses

(a) Losses owing to normal production factors

450. These losses (item 1 of table 34, for example, losses during storage of products) are regarded in MPS as losses relating to production, and in SNA they are classified under foreseen losses, but they are treated in the same way in the two systems, which means that no adjustment is required. Losses in stocks are included under intermediate consumption and those in the area of fixed assets are treated as consumption of fixed capital; normal losses that occur in the course of the current production process are not calculated in the output of the period in question.

(b) Losses owing to accidental damage

451. These losses (item 2 of table 34, such as losses owing to fire, collisions and inappropriate use of equipment) are also classified under unforeseen losses in SNA, and the way they are treated is based on the type of goods damaged: losses relating to stocks are treated as intermediate consumption and losses relating to fixed assets are treated as consumption of fixed capital. In MPS these losses are regarded as losses unrelated to production and form part of a separate category within the final destination of the net material product (NMP).

452. Owing to the different treatment given to this type of losses, intermediate consumption and consumption of fixed capital are higher in SNA than in the corresponding MPS categories and, as a result, GDP is lower than NMP as regards the value of losses relating to stocks (code $L_1$).

(c) Other types of losses

453. This category covers losses rising from major catastrophes or from unforeseeable obsolescence (item 3 of table 34, such as floods, earthquakes, technological advances, etc.) and losses owing to discontinued construction (item 4 of table 34). In MPS this group forms part of losses unrelated to production and they are classified in a separate category, which means that they do not have any impact on production but, rather, on the final destination of NMP. In SNA these losses are regarded as being caused by accidental damage or unforeseeable obsolescence, and they are not recorded in the production accounts but, rather, as capital losses in the assets and liabilities accounts.

454. Consequently, this different treatment does not result in a difference in production categories and income resulting from production, but in the capital formation categories (fixed assets and stocks) of the two systems and in the separate final-use category of "losses" of MPS, for which there is no SNA counterpart.

## 5. Intermediate consumption (SNA) and intermediate material consumption, excluding consumption of fixed capital (MPS)

455. In this section close consideration is given to the adjustments required in order to deal with the differences between the SNA intermediate consumption category and the MPS intermediate material consumption category (excluding fixed capital), which are chiefly due to the two systems' differing concepts of output and to different treatment where certain transactions are concerned.

456. The steps that must be taken in order to convert these aggregates and the relationships between the differences discussed here and other categories are set forth in table 37, which summarizes all the adjustments for converting, on the output side, NMP of MPS into GDP of SNA.

/(a) Adjustments

(a) Adjustments in respect of output

457. Goods and material services used by activities in the non-material sphere are classified under intermediate consumption in SNA. In MPS they are treated as part of final consumption and are divided into various types, according to their purpose (see paragraphs 266 and 273). This difference may be expressed as intermediate material consumption of non-material services and is represented in table 37 by code "I", disaggregated on the basis of the destination of the gross output of non-material services by means of subindexes 1 to 6 (column 4, rows 8 to 13).

458. Furthermore, in SNA intermediate consumption also covers non-material services used in both the material and the non-material sphere; however, in MPS this is not the case, because activities in the non-material sphere are not regarded as being within the sphere of output.

459. Adjustments in output owing to this difference in order to transfer from the MPS global product to SNA gross output were shown in table 33. The adjustments in question are repeated in summary-table 37 (rows 8 to 13, column 1), which is set forth further on; in addition, in column 2 a listing is given of the use of the services in question as intermediate consumption, in row 7 purchases of the material sphere are indicated with code $N_1$, and in rows 8 to 13 the uses of the non-material sphere are indicated with codes $N_{21}$ and $N_{26}$ (in other words, output of non-material services for use in the non-material sphere, listed as $N_2$ in row 9 of column 1, is disaggregated in column 2 and indicated by a second subindex based on the various destinations).

460. In addition to these differences, which arise from the two systems' differing concept of output, it is necessary to take account of adjustments relating to the cost of food and beverages incurred in restaurants and cafés (paragraph 443) and to the value of waste materials sold by production units (see paragraph 444). These types of adjustment were listed in table 33 and are repeated in the same manner in rows and columns 1 and 2 of table 37.

(b) Imports

461. In SNA imports of non-material services are classified under intermediate consumption, but they are excluded from the material balances in MPS. Adjustments owing to these differences are listed in column 2 of table 37; intermediate consumption by the material sphere is listed in row 7 under code $F_0$, and expenditure by units in the non-material sphere is disaggregated in rows 8 to 13 under codes $F_1$ and $F_6$.

(c) Services provided by enterprises to their employees

462. Expenditure by employers that is beneficial both to them and to their employees (for example, improvements in the working environment, medical examinations and cultural and sporting facilities) are treated differently in the two systems.

463. In the countries using SNA the services in question are usually provided by units that are treated separately and they are classified as part of the non-material sphere. Consequently, expenditure incurred by enterprises and other units in connexion with such facilities and services is regarded as transfers to the non-material sphere, which in the case of enterprises in the material sphere are charged to the operating surplus. In the case of Cuba, the units in question are also institutionally independent of the enterprises.

/464. In

464. In SNA it is recommended that such expenditure should be treated as intermediate consumption. However, in practice, where there are no independent units or it is not possible to treat them separately only expenditure on goods and services purchased is classified under intermediate consumption, and not the other forms of expenditure incurred by the enterprise that provides such services, chiefly wages and salaries, direct to its employees.

465. The differences in question have an impact on the pattern and level of gross output and intermediate consumption, but do not have any effect on aggregate value. In view of these considerations and, moreover, owing to the fact that it is a question of relatively insignficant magnitude, it is not suggested that any adjustments should be made in this conversion.

(d) Expenditure on business travel

466. SNA recommends that the cost of travel by employees in connexion with their employer's business that is reimbursed to them should be classified as expenditure on intermediate consumption (see paragraph 122). This recommendation is based on the fact that it is assumed that the employees' expenditure is directly related to the expenditure required in order to carry out business trips.

467. On the other hand, MPS takes as a basis the principle that employees may incur expenditure on goods and services other than those required for business travel; consequently, all such expenditure is treated as expenditure on consumption by the population (see paragraph 269). However, in Cuba only expenditure on food and accommodation is treated as expenditure by the population, whereas expenditure on transport is treated in the same way as in countries using SNA.

468. In short, as a result of the different treatment arising from the concept of output, for the purpose of conversion in Cuba in the area of food and lodging that is reimbursed by the employer a distinction must be made as regards: (i) breakdown of the cost of goods and material services and non-material services; (ii) the type of sphere reimbursing the expenditure. These distinctions are summarized in table 35 for the purpose of greater clarity.

469. The material part of such expenditure includes, inter alia, the cost of food and material inputs into lodging services, and, for example, the non-material part covers the wages of hotel employees. The material part of the expenditure ($B^M + B^N$) is regarded as personal consumption by the population, and the non-material part ($H^M + H^N$) appears in the financial balance as expenditure by the population on non-material services. Expenditure reimbursed by the material sphere ($B^M + H^M$) is treated as primary income of the population, while expenditure reimbursed by the non-material sphere ($B^M + H^N$) is taken into account in the financial balance in the form of expenditure on the wages and salaries of employees in the non-material sphere.

470. When the global product is the starting point in the conversion process the only adjustment to be made is to add entry $B^M$ in table 35 to intermediate consumption in the material sphere (row 5, column 2 of table 37). It is not necessary for the remaining entries in table 35 to be regarded as special adjustments, because $B^N$ is in fact included among the material inputs of the non-material sphere (codes "I" in column 2 of table 37) and entries $H^M$ and $H^N$ are included in the adjustments to take account of purchases of non-material services for both spheres (codes "N" in column 2 of table 37).

471. The impact of these types of expenditure on income components and final-expenditure components is considered further in the relevant sections.

/Table 35

Table 35

PATTERN OF EXPENDITURE

| Expenditure components by type of goods and services | Expenditure reimbursed | |
|---|---|---|
| | By the material sphere (M) | By the non-material sphere (N) |
| - Material part (B) | $B^M$ | $B^N$ |
| - Non-material part (H) | $H^M$ | $H^N$ |
| - Total cost reimbursed | $B^M + H^M$ | $B^N + H^N$ |

(e) Employers' expenditure on uniforms

472. Employers' expenditure on uniforms is treated differently in the two basic systems. In order to explain these differences, in table 36 the criteria used both in SNA and MPS, as in the particular case of Cuba, are given.

473. It may be noted that the only difference between countries using SNA and Cuba is in the treatment given to work uniforms in the non-material sphere. This difference is due to basic concepts regarding output, and it is consequently not necessary to make any special adjustment, since this type of expenditure is already included in the global adjustment of intermediate material consumption in the non-material sphere (see paragraph 457).

(f) Dividing line between intermediate consumption and capital formation

474. In SNA and the countries using that system with the exception of family dwellings for military personnel, expenditure on durable goods for military purposes is regarded as intermediate consumption (see paragraph 118) and therefore forms part of general-government final consumption. In MPS, on the other hand, such expenditure is included under fixed-capital formation (see paragraph 280).

475. However, in practice in Cuba such expenditure is treated in the same way as in the other countries of the region, since, with the exception of residential buildings for military personnel, these types of expenditure are also regarded as other final consumption to meet collective requirements. The sole difference arises in the intermediate consumption of the non-material sphere, but no special adjustment is called for, because this is included in the global adjustment referred to in paragraphs 457 and 459.

476. Government purchases of durable goods of a low unit value are usually treated as intermediate consumption in the two systems. However, in Cuba such purchases are treated as other final consumption, except in the case of purchases made by recently established budget units, which are regarded as capital formation. Since this difference is of minor importance, it is not proposed that any adjustment should be made.

/Table 36

Table 36

TREATMENT OF EMPLOYERS' EXPENDITURE ON UNIFORMS

| Expenditure | SNA | MPS | In Cuban practice with the material balance |
|---|---|---|---|
| Military uniforms | | | |
| - for military exercises | Private consumption | Other final consumption to meet collective needs | Personal consumption by the population |
| - other | Private consumption | Personal consumption by the population | Personal consumption by the population |
| Work uniforms | | | |
| - that may be used both at work and outside work | Intermediate consumption | Personal consumption by the population | In the material sphere: intermediate consumption<br>In the non-material sphere: other final consumption |
| - special work garments (excluding those for military use) | Intermediate consumption | Personal consumption by the population | In the material sphere: intermediate consumption<br>In the non-material sphere: other final consumption |

/(g) Material

(g) Material activities carried out free of charge by budget units for the benefit of the material sphere

477. In MPS material activities carried out by budget units entirely free of charge for the benefit of the material sphere (for example, animal health care) are treated as material costs of the corresponding activities. In SNA, on the other hand, they are regarded as activities of producers of government services for own use and, consequently, as government final-consumption expenditure.

478. In view of the fact that in Cuba such material activities are not regarded as output and, as a result, their material cost is not regarded as other final consumption, there are no differences between Cuban practice and practice in the remaining countries of Latin America.

(h) Losses owing to accidental damage to stocks

479. The adjustment that must be made in intermediate consumption owing to the difference in the treatment of losses arising from accidental damage to stocks, which was considered in paragraphs 451 and 452 (code $L_1$ in table 34), is set forth in summary-table 37, in row 3, column 2.

## 6. Consumption of fixed capital

480. The scope of consumption of fixed capital is virtually the same in the two systems, except for the basic difference arising from the different concept of output and the method of treating a number of particular transactions, which are commented upon below. As in the case of intermediate consumption, the adjustments required for conversion of MPS estimates to SNA are set forth in summary-table 37.

(a) Valuation criteria

481. The countries using SNA try to apply a system of valuation based on replacement cost, which is recommended under SNA, although in practice it is assumed that in most of those countries calculations are carried out on the basis of original prices and, in a number of cases, with global adjustments through price indexes.

482. Normally, details regarding breakdown and age by type of goods of existing assets are not available and the relevant calculations cannot be carried out. In general, the anticipated life of fixed assets is estimated by experts or on the basis of the technical specifications of each of the capital goods in question.

483. In the countries using MPS, calculations are not based strictly on replacement costs but, rather, on prices in various years. In other words, on a certain date all stocks are revalued at the prices in force at that particular time, and that value is maintained until a further revaluation is carried out. New capital goods purchased between two revaluations are assessed at the prices at which they were purchased.

484. Whether capital consumption calculated on such a basis corresponds to the principle of valuation at replacement costs depends on the pattern of stocks and the life of the goods in question, as well as on the period of time that elapses and the changes that take place in prices of capital goods from the time of acquisition to the following revaluation.

485. Currently, in Cuba the method described above is used, the first general revaluation having been carried out in 1979. Moreover, in Cuba as in other countries using MPS, when it is a question of enterprises and budget units the

/anticipated life

anticipated life of fixed assets is officially determined (by type of fixed assets and by type of economic activity) and the coefficients in question are used for calculating the material balances. In the case of the remaining stocks of fixed assets (chiefly owner-occupied buildings and fixed assets of personal businesses), the anticipated life officially set for similar assets is used.

486. In conclusion, there is not sufficient information on these issues to be able to assess whether there are significant differences that should be taken into account for the purposes of comparability between use of the two systems in the region.

(b) Allocations in the non-material sphere

487. In all the countries using MPS consumption of fixed capital in the material sphere is regarded as falling within output, or within the ambit of supply of the material balance, as in SNA. On the other hand, whereas in SNA consumption of fixed capital in the non-material sphere is given the same treatment as that received by consumption of fixed capital in the material sphere, in MPS it is included among the various types of final consumption in accordance with a listing of the destination of output of non-material services.

488. This discrepancy arises from the basic difference in the two systems' concept of output, and it is therefore suggested that in this conversion the adjustments set forth under codes $C_1$ to $C_6$ in rows 8 to 13, column 3, in table 37, should be made.

(c) Current repairs and capital repairs

489. In principle, all countries regard major repairs to machinery and equipment as forming part of gross capital formation and the respective capital consumption is therefore calculated. In Cuba there are officially approved limits for establishing the amounts of repairs that may be regarded as current repairs, by type of fixed assets and by economic activities. In fact, there may be differences in practice, but the information required in order to assess their significance is not available.

(d) Current value and written-off value of discarded assets

490. In countries using SNA the sales value of discarded fixed assets differs from the net value of the fixed assets (current value, less depreciation). This difference is treated as a capital gain or loss in assets accounts and is recorded neither in output accounts nor in capital-formation accounts.

491. In Cuba, in accordance with MPS, this difference is regarded as consumption of capital, and it is therefore suggested that an adjustment should be made in the conversion, which in the case of Cuba reduces capital consumption (code D, row 6, column 3, in table 37).

(e) Losses owing to accidental damage to fixed assets

492. The adjustment to take account of the difference in the treatment of losses owing to accidental damage to fixed assets considered in paragraph 541 is entered under code $L_2$ in row 4, column 3, table 37.

/Table 37

Table 37

CONVERSION OF THE NET MATERIAL PRODUCT (NPS) INTO NET DOMESTIC PRODUCT (NDP) ON THE PRODUCTION SIDE

| Row | MPS categories / Adjustments | Global product | Intermediate material consumption, excluding consumption of fixed capital | Consumption of fixed capital | Net material product (NMP) |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 = 1 - (2 + 3) |
| | A. Adjustments in the material sphere | | | | |
| 1 | -Cost of food and beverages consumed in restaurants and cafes | + $P_1$ | + $P_1$ | | |
| 2 | -Waste and scrapt as manufacturing by-products | + $P_2$ | + $P_2$ | | |
| | -Losses owing to accidental damage: | | | | |
| 3 | -stocks | | + $L_1$ | | - $L_1$ |
| 4 | -fixed assets | | | + $L_2$ | - $L_2$ |
| 5 | -Expenditure on business travel | | + $B^M$ | | - $B^M$ |
| 6 | -Value of assets discarded | | | - D | + D |
| 7 | -Services in the non-material sphere | | + $N_1$ + $P_o$ | | - $N_1$ - $P_o$ |
| | B. Adjustments in the non-material sphere | | | | |
| | Non-material services: | | | | |
| | -Intermediate consumption by: | | | | |
| 8 | -the material sphere | + $N_1$ | + $I_1$ + $P_1$ + $N_{21}$ | + $C_1$ | + $N_1$ - ($I_1$ + $P_1$ + $N_{21}$ + $C_1$) |
| 9 | -the non-material sphere | + $N_2$ | + $I_2$ + $P_2$ + $N_{22}$ | + $C_2$ | + $N_2$ - ($I_2$ + $P_2$ + $N_{22}$ + $C_2$) |
| 10 | -Final consumption: | | | | |
| 10 | -purchased by the population | + $N_3$ | + $I_3$ + $P_3$ + $N_{23}$ | + $C_3$ | + $N_3$ - ($I_3$ + $P_3$ + $N_{23}$ + $C_3$) |
| 11 | -to meet individual needs, government-financed | + $N_4$ | + $I_4$ + $P_4$ + $N_{24}$ | + $C_4$ | + $N_4$ - ($I_4$ + $P_4$ + $N_{24}$ + $C_4$) |
| 12 | -to meet collective needs | + $N_5$ | + $I_5$ + $P_5$ + $N_{25}$ | + $C_5$ | + $N_5$ - ($I_5$ + $P_5$ + $N_{25}$ + $C_5$) |
| 13 | -Exports | + $N_6$ | + $I_6$ + $P_6$ + $N_{26}$ | + $C_6$ | + $N_6$ - ($I_6$ + $P_6$ + $N_{26}$ + $C_6$) |
| | SNA categories | Gross output | Intermediate consumption | Consumption of fixed capital | Net domestic product |
| | | 1 | 2 | 3 | 4 = 1 - (2 + 3) |

/(f) Consumption

(f) Consumption of capital in respect of afforestation and the improvement of land, roads, bridges and similar constructions

493. Consumption of fixed capital in respect of the assets listed under this heading is not taken into account in SNA, but in principle it should be taken into account in MPS.

494. In the Latin American countries using SNA inclusion of these assets in consumption of fixed capital depends on the procedure followed for calculating them, as well as on the listing of basic information used for estimates of gross capital formation; in that connexion, it would be interesting to investigate national practice more closely, although it may be assumed that these assets are excluded. Moreover, in Cuba they are taken into account only in the balance of fixed assets and indicators of national wealth, and are not included in the material balance.

495. On the basis of the foregoing it may be considered that in practice there are no differences among the countries of the region, and it is therefore not suggested in this document that adjustments should be made in that connexion.

## 7. Conversion of the MPS net material product (NMP) to the SNA net domestic product (NDP)

496. Table 37 sets forth all the adjustments that have been suggested in the earlier sections relating to outputs and intermediate utilization with a view to converting Cuba's net material product (NMP), in accordance with MPS, to the net domestic product (NDP), in accordance with SNA.

497. This table therefore shows the adjustments that are required in order to transform the aggregates, in MPS, of the global product, intermediate material consumption (excluding that of fixed capital), consumption of fixed capital and the net material product, which appear at the top of the columns, into the corresponding SNA categories of gross output, intermediate consumption, consumption of fixed capital and the net domestic product, respectively, which appear at the bottom of each column. Furthermore, part A of column 4 of this table shows the adjustments that are required in order to convert NMP to the net value added of activities in the material sphere, and part B shows the net value added of activities in the non-material sphere, in both cases in accordance with SNA.

498. The operational machinery that this table contains basically corresponds to the steps described in the first approach proposed on the production side in table 22. Logically, table 37 completes the steps required in order to convert Cuba's estimates, including, in addition to the adjustments arising from the basic difference in the concept of output, the other adjustments arising from the different treatment of certain entries in the material sphere (rows 1 to 6). It is also possible to derive from table 37 the procedure presented as the second approach on the expenditure side in table 24 in chapter II for converting NMP into NDP.

499. For the purpose of establishing the conceptual nature of these two procedures the deduction of the components of the two approaches is set forth below, in accordance with the symbols used in table 37.

500. On the basis of the first approach, on the production side, the result of ordering and grouping the entries set forth in column 4 of table 37 is as follows:

$$NMP - (L_1 + L_2 + B^M - D) - (N_1 + F_o) + \left[\bar{N} - \left(I + \sum_{i=1}^{6} F_i + \sum_{i=1}^{6} N_{2,i} + C\right)\right] = NDP \quad (1)$$

/in which,

in which, in accordance with table 22, in order to make a transfer from NMP to NDP, the third term indicates the deduction that should be made from NMP to take account of intermediate utilization by the material sphere of non-material services, both of domestic origin ($N_1$) and of external origin ($F_o$), and the addition to take account of the net value added of the non-material sphere is shown in the last term (between square brackets). The second term contains the adjustments to take account of differences in the treatment of certain items in the material sphere.

501. If the third and fourth terms are separated from formula (1), the following algebraic equation is obtained

$$- N_1 - F_o + N - I - \sum_{i=1}^{6} F_i - \sum_{i=1}^{6} N_{2,i} - C \qquad (2)$$

and taking account of the fact that

$$F_o + \sum_{i=1}^{6} F_i = F$$

and that

$$\sum_{i=1}^{6} N_{2,i} = N_2$$

replacing and ordering the elements in (2) the result is

$$N - N_1 - N_2 - F - I - C \qquad (3)$$

Recalling, moreover, that

$$N = N_1 + N_2 + \ldots + N_6$$

elements $N_1$ and $N_2$ in (3) would therefore be eliminated, and the following would ultimately remain as the elements of the third and fourth terms

$$N_3 + N_4 + N_5 + N_6 - F - I - C \qquad (4)$$

By replacing the third and fourth terms in (1) by (4), and considering, furthermore, that "$N_6$ - F" constitute net exports, by grouping together the elements that have the same destination, the following final expression would be obtained

$$NMP - (L_1 + L_2 + B^M - D) + [(N_3 + N_4 + N_5) + (N_6 - F)] - (I + C) = NMP \qquad (5)$$

502. In (5), in accordance with the system of the second approach for transferring from NMP to NDP on the expenditure side (table 24), the third term (between square brackets) contains the addition that should be made to NMP in order to take account of non-material services for final use, either for final consumption (first set of parentheses) or net exports (second set of parentheses), while the last (fourth) term shows the subtraction to take account of material inputs used by the non-material sphere. The second term repeats the adjustments relating to specific items, as in the case of formula (1).

/503. Although

503. Although the analysis of the adjustments required in order to convert MPS final-expenditure components into the corresponding SNA aggregates is considered under the following section, it is interesting to anticipate here the way in which they are linked and the manner in which they are also derived from the content of table 37.

504. If the various goods and services are classified by means of a supraindex according to their destination, with intermediate consumption being represented by "i", final consumption by "c" and exports by "e", in the case of output of non-material services the result would be as follows

$$N^i = N_1 + N_2$$

$$N^c = N_3 + N_4 + N_5$$

$$N^e = N_6$$

$$N = N^i + N^c + N^e$$

505. By returning to (3) and replacing elements "N", "I" and "C" by what was referred to above, for the third and fourth terms of (1) the following is obtained:

$$N^i + N^c + N^e - N_1 - N_2 - F - I^i - I^c - I^e - C^i - C^c - C^e \qquad (6)$$

Taking account of the fact that

$$N^i = N_1 + N_2$$

and that

$$N^e = N_6$$

by grouping together output elements and input elements for one and the same purpose, the following is obtained from (6)

$$\underline{\bar{N}^c - (I^c + C^c)} + \underline{(N_6 - F) - (I^e + C^e)} - (I^i + C^i) \qquad (7)$$

Lastly, by replacing the third and fourth terms in (1) by (7) the following is obtained

$$NMP - (L_1 + L_2 + B^M - D) + \underline{\bar{N}^c - (I^c - C^c)} + \underline{(N_6 - F) - (I^e - C^e)} - (I^i + C^i) = NDP \qquad (8)$$

506. In short, it may be inferred from (8) that in order to transfer from the NMP of MPS to the NDP of SNA it is necessary to: (i) add the non-material part of non-material services for final use; (ii) deduct the material part used as intermediate consumption by the non-material spheres. The first of these concepts

/is contained

is contained in the third and fourth terms of (8), for final consumption and net exports, respectively, and the second concept is shown in the fifth (last) term. This is verified further on in the total column of table 38.

## 8. Components of final demand

507. In this section the adjustments required in order to transform each of the MPS final-expenditure categories into the corresponding SNA aggregates are considered and described in detail. The steps required for that purpose are summarized in table 38, which is set forth at the end of this section: the codes used earlier in order to indicate the various adjustments and the system of presentation used in table 37 have been retained.

508. The concept of final expenditure as an entity differs fundamentally in the two systems, owing to the different basic concepts of outpu SNA covers all goods and services ultimately consumed, whereas MPS includes goods and services in the material sphere for final use, and in the non-material sphere it covers only the material part used as intermediate consumption for the provision of such services. There are a number of other differences, including, in particular, that relating to the geographic concept applied, which is considered under the sections concerning each final-expenditure category.

510. Valuation problems were commented on in detail in section 2 of this chapter concerning criteria followed in practice for valuing gross output. In that same section a number of proposals were put forward with regard to the method of valuing a number of specific cases that gave rise to comparability problems, such as residential services and services marketed below cost. As already point out, these differences have a particular impact on final-consumption expenditure and, consequently, restrict comparison of the respective categories of the two systems, sometimes even in the case of countries using the same system.

511. General differences between the two systems relating to the breakdown of final expenditure were pointed out in chapter II, and the adjustments required in order to convert Cuba's MPS components into SNA components are analysed and stated in detail below.

### (a) Final consumption of households (SNA) and personal consumption by the population (MPS)

512. In countries using SNA, final-consumption expenditure of households covers all expenditure by households on goods and services (both material and non-material), and they are recorded on the basis of the national concept. In Cuba, in accordance with MPS, personal consumption by the population covers only expenditure by households on goods and material services, since it is based on a domestic concept and by definition includes, in addition, consumption of fixed capital of all residential units (see paragraph 274).

513. The treatment of goods and material services, in other words, direct purchases made by the population of goods and services in the material sphere, which make up the greater part of personal consumption, is basically the same in the two systems. The chief difference lies in the treatment given to services in the non-material sphere. In MPS services in the non-material sphere purchased by households are made up, on the one hand, by goods and material services and, on the other hand, by non-material services. The material part is classified under other final consumption and covers material intermediate inputs, plus consumption of fixed capital, except that of dwellings, which, as already indicated,

/Table 38

Table 38

CONVERSION OF MPS FINAL-EXPENDITURE COMPONENTS (NET) TO SNA COMPONENTS

| Row | MPS categories / Adjustments | Personal consumption by the population | Other final consumption to meet: | | | Net formation of fixed capital | Changes in stocks | Losses | Exports, less imports | Net material product (NMP) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Requirements of the population | Collective requirements | Other requirements | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1 | Material part of non-material services acquired by the population | $+(I_3+C_3)$ | $-(I_3+C_3)$ | | | | | | | $+/N^C-(I^C+C^C)/$ |
| 2 | Non-material part of non-material services for final consumption | $+/N_3-(I_3+C_3)/$ | $+/N_4-(I_4+C_4)/$ | $+/N_5-(I_5+C_5)/$ | | | | | | |
| 3 | Net direct exports of the population | $-(E-J)$ | | | | | | | $+(E-J)$ | |
| 4 | Material part of expenditure on business travel | $-(B^M+B^N)$ | | | $+B^M$ | | | | | $-B^M$ |
| | Material part of non-material services for: | | | | | | | | | |
| 5 | -intermediate consumption | | | | $-(I^i+C^i)$ | | | | | $-(I^i+C^i)$ |
| 6 | -exports and other | | | | $-(I^e+C^e)$ | | | | $+(I^e+C^e)$ | |
| | Losses in: | | | | | | | | | |
| 7 | -stocks | | | | | | $+L_3$ | $-(L_1+L_3)$ | | $-L_1$ |
| 8 | -fixed assets, including discontinued construction | | | | | $+(L_4+L_5)$ | | $-(L_2+L_4+L_5)$ | | $-L_2$ |
| 9 | Value of discarted assets | | | | | $+D$ | | | | $+D$ |
| 10 | Non-material part of exports, less non-material services | | | | | | | | $+/(N_6-F)-(I^e+C^e)/$ | $+/(N_6-F)-(I^e+C^e)/$ |
| | SNA categories | Final consumption expenditure by resident households | General-government final-consumption expenditure and private non-profit institutions serving households | | | Net formation of fixed capital | Variations in stocks | (None) | Exports, less imports | Net domestic product (NDP) |
| | | 1 | 2/4 | | | 5 | 6 | 7 | 8 | 9 |

/by definition

by definition falls under personal-consumption expenditure by households on goods and material services. The non-material part is not taken into account in the concept of output and is therefore not taken into account in the final use of NMP either.106/

514. Two adjustments are called for as a result. Firstly, it is necessary to reclassify the material component of direct purchases of non-material services by the population and, secondly, the non-material parts of such expenditure should be added. The first adjustment is represented by code $(I_3 + C_3)$ in row 1, columns 1 and 2 of table 38, and the second adjustment is represented by code $/\bar{N}_3 - (I_3 + C_3)7$ in row 2, column 1 of the same table.

515. In this case, in converting MPS figures to SNA the aim is to reflect the final-consumption expenditure of households. Therefore, in addition to the basic differences arising from the different concept of output, there is a need for further adjustments to take account of different treatment of a number of particular transactions that were considered earlier.

516. The difference in the national/domestic concept (see paragraphs 404 and 405) calls for an adjustment corresponding to direct purchases by non-resident households in the domestic market (E) and by resident households abroad (J), which is represented by code (E-J) in row 3 of the same table; this adjustment has the opposite impact on the level of net exports, which is shown in column 8.

517. Secondly, owing to the difference in treatment of expenditure on business travel already commented on (see paragraphs 466 to 471) it is necessary to make an adjustment, which is represented by codes $B^M$ and $B^N$. When the starting point is the final use of NMP it is necessary to substract from personal consumption by the population the material part of all expenditure $(B^M + B^N)$, as indicated in row 4, column 1, of table 38. The counterpart of entry $B^M$ is the adjustment made in intermediate consumption in the material sphere in table 37 (row 5, column 2); entry $B^N$, in other words, the material part of expenditure on travel in the non-material sphere, which is regarded in SNA as intermediate consumption of non-material services, is entered as an adjustment in the opposite direction in column 4 of table 38.

518. The other differences arising from the different treatment recommended by the two systems as regards additional benefits granted by enterprises to their employees, as well as donations in kind, which were analysed at the appropriate points (see paragraphs 462 to 465 and paragraphs 402 and 403), respectively, do not call for adjustments in converting Cuba's figures to SNA, as pointed out earlier.

519. The latter problem concerns the difference regarding the consumption by households/personal consumption boundary in the basic systems. By drawing a new line between goods consumed and those taken into account as capital formation in the form of stocks, SNA considers that all goods acquired by households or produced for own account for final consumption during a given period are consumed during that same period.107/ In MPS the estimation of final consumption in the case

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106/ The conceptual differences between the two systems were considered in detail in section 2 of chapter II. The approach to global adjustments to take account of basic differences was set forth in table 29, and in the practical case of Cuba are now set forth in detail in the same manner in table 38.

107/ United Nations, A system of ..., Series F, No. 2, Rev. 3, op. cit., paragraph 6.81.

of agricultural products takes into account real consumption and not supply itself. Variations in the stocks of such products in the possession of the population are taken into account in accumulation of consumer stocks (see paragraphs 274 and 282). Consequently, there is a difference between the two systems that affects the final-consumption categories and changes in stocks, but in practice there are no differences among the Latin American countries, because in Cuba final consumption in kind is equivalent to output of consumer goods.

(b) Other final consumption

520. In principle, in SNA the MPS category of other final consumption corresponds to government final-consumption expenditure and final-consumption expenditure by private non-profit institutions serving households.

521. Once again, in this case the differences lie in the differing basic concepts of output. SNA includes in output the total cost of the services provided by the producers in question, whereas MPS only includes the material costs of such non-material services. In order to eliminate this difference, table 38 includes the adjustments shown in row 2, columns 2 and 3, for the purpose of adding the non-material part of such services.

522. At the same time, since MPS final-consumption expenditure includes all purchases of goods and material services made by the non-material sphere, acquisitions whose use differs from the purpose of final consumption should be eliminated. These adjustments are set forth in rows 5 and 6 of column 4.

523. Although there are other differences in national practice relating to the final expenditure of such producers, it is probable that they are not of major importance. It only remains to be pointed out that in the Latin American countries using SNA in practice final-consumption expenditure of private non-profit institutions serving households is dealt with together with expenditure by households. With a view to achieving improved comparability in the case of Cuba it would be desirable in future calculations to separate this expenditure within other final consumption.

(c) Net capital formation

524. Both systems possess the concepts of gross and net capital formation, but capital formation within the context of final distribution is naturally gross in the case of GDP and net in the case of NMP. There are a number of differences between the two systems with regard to scope, most of which do not call for adjustments because the treatment is the same in practice, as outlined briefly.

525. In SNA certain items are included that are treated as non-material activities or redistributive payments, in other words, transfers, in MPS. An example of such transactions is provided by other costs incurred in the case of purchases of fixed assets that are classified in ICSC group 8321, as well as by transfer costs relating to transactions concerning second-hand fixed assets. Nevertheless, no adjustment is required, because in Cuba this category of costs in respect of transactions concerning fixed assets does not exist.

526. Furthermore, in view of the fact that in Cuba expenditure on military equipment is treated as other final consumption, which may be regarded as the counterpart of general-government final-consumption expenditure in SNA, there is no difference in national practice (see paragraphs 347, 474 and 475).

/527. The

527. The treatment of monetary gold ingots and of other monetary gold is different in the two basic systems (paragraph 347). In MPS changes in such assets are treated as capital formation, whereas in SNA they are regarded as financial assets. However, in view of the fact that all Latin American countries, including Cuba, follow the same approach (in other words, financial assets), it is not necessary to make any adjustment.

528. In Cuba capital expenditure for units representing the country abroad is not separated from current expenditure and expenditure by units located within the country is not treated as an export. In the other Latin American countries the former is treated as expenditure on capital formation and the latter as exports. Since this difference is of minor importance it is not suggested that any adjustment should be made. Capital formation of international organizations is given the same treatment throughout the region.

529. With regard to classification of capital formation in MPS, changes in construction work in progress are treated as changes in stocks and in SNA as capital formation. However, owing to the fact that in Cuba this item is also regarded as formation of capital in fixed assets, there are no differences in national practice and no corresponding adjustment is required.

530. In the final analysis, the only adjustments required in net capital formation are those resulting from treatment of losses and the residual value of discarded assets. These problems were considered under sections 4 and 6 (d) of this chapter, respectively. The entries required for overcoming these differences are indicated in table 38, in rows 7, 8 and 9 and columns 5, 6 and 7. The basic purpose of the entries relating to losses is to eliminate the relevant category of MPS that does not exist in the SNA final composition of demand.

(d) Net exports

531. The chief differences in the treatment of exports and imports arise from: (i) the basic concept of output, in other words, Cuban figures do not cover exports and imports of non-material services; (ii) the national and domestic approaches adopted in the case of personal consumption. In view of these discrepancies the following adjustments are proposed and used in the conversion with the corresponding codes in column 8; the first adjustment represents the sum of the entries in rows 6 and 10 and the second the entry in row 3.

## 9. Components of net value added

532. The chief difference in the scope and breakdown of SNA net value added and MPS income from the net material product were considered in detail in section 2 of chapter II.108/ As in the earlier cases, these differences arise from the two systems' different basic concepts of output, as well as from the different approach that each of the systems adopts in classifying components (see paragraphs 309 and 310).

533. The general adjustments required in order to convert the MPS value added components to SNA were set forth in table 26, and in this section the practical cases that arise in converting Cuban estimates to SNA are set forth in table 39.

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108/ In MPS income from the net material product is referred to as national income (see explanation in footnote 79 to paragraph 311).

/Table 39

Table 39

CONVERSION OF MPS INCOME FROM THE NET MATERIAL PRODUCT INTO SNA NET VALUE ADDED

| Row | MPS categories / Adjustments | Primary income of the population | (None, including under column 4) | | Primary income of enterprises | Income from NMP a/ |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5=1+2+3+4 |
| | A. Adjustments in the material sphere | | | | | |
| 1 | Net income of small private enterprises and personal plots | $-G^{H}$ | | | $+G^{H}$ | |
| 2 | Employers' contributions to social security schemes | | $+S^{H}$ | | $-S^{H}$ | |
| 3 | Indirect taxes, less subsidies | | | $+T^{H}$ | $-T^{H}$ | |
| 4 | Purchases of non-material services | | | | $-(I_{1}+P_{1,0})$ | $-(I+\sum_{i=1}^{6}P_{i,0})$ |
| 5 | Expenditure on business travel | $-(B^{H}+H^{H})$ | | | $-B^{H}$ b/ | |
| 6 | Losses owing to accidental damage to stocks and fixed assets, including discontinued construction | | | | $-(I_{1}+I_{2})$ | $-(I_{1}+I_{2})$ |
| 7 | Value of discarded assets | | | | $+D$ | $+D$ |
| | B. Adjustments in the non-material sphere | | | | | |
| 8 | Net value added | $+W^{H}$ | $+S^{H}$ | $+T^{H}$ | $+G^{H}$ | $[B-(I+\sum_{i=1}^{6}P_{i,1}+\sum_{i=1}^{6}B_{2,i}+C)]$ |
| 9 | Expenditure on business travel | $-(B^{H}+H^{H})$ | | | c/ | |
| 10 | Work uniforms | $-U^{H}$ | | | d/ | |
| | | 1 | 2 | 3 | 4 | 5 = 1+2+3+4 |
| | SNA categories | Wages and salaries | Employers' contributions to social security schemes | Indirect taxes, less subsidies | Operating surplus | Net value added (NVP) |
| | | Remuneration of employees | | | | |

a/ In MPS income from NMP is referred to as national income (see footnote 79 to paragraphs 511).

b/ Part $H^{H}$ is included under $H_{1}$ in row 4.

c/ Part $B^{H}$ is included in I and part $H^{H}$ in $H_{2,i}$, both in row 8.

d/ It is understood that this expenditure is included under I, in row 4.

/534. The

534. The layout and method of operation are the same in table 39 as in the two preceding tables. Taken together, these tables set forth the links existing between the adjustments proposed in connexion with the three aspects that are dealt with in this paper in an endeavour to convert the NMP of MPS into the NDP of SNA, namely: on the production side (see table 37), through the pattern of final expenditure (see table 38), and through the breakdown of value added (see table 39).

535. With a view to reflecting the links existing between the categories in which the income from the NMP of MPS is classified and the components of SNA net value added, employers' contributions to social security schemes and indirect taxes, less subsidies (columns 2 and 3, respectively), are set forth separately in table 39. In MPS these two concepts are covered by primary income of enterprises (column 4, see paragraph 290), but in SNA the first is covered by remuneration of employees (see paragraph 146) and the second is classified separately (see paragraph 310).

(a) Wages and salaries

536. The basic difference in the content of this category is in wages and salaries in the non-material sphere. This adjustment is represented by code $W^N$, which appears in row 8, column 1, table 39.

537. The other adjustment required in this category concerns net income of small private enterprises and personal plots in the material sphere, which is represented by code $G^M$ in row 1, column 1, table 39. In MPS the net income of such units is included in primary income of the population, whereas in SNA it is part of the operating surplus of unincorporated enterprises (see paragraphs 287 and 312).

538. Similarly, MPS wages and salaries must be adjusted to take account of expenditure on business travel reimbursed by employers. In the material sphere such expenditure is regarded as primary income of the population (see paragraph 469) and the material part ($B^M$) and the non-material part ($H^M$) must be therefore deducted, as indicated in row 5, comumn 1, table 39; entry $B^M$ has an impact on intermediate consumption (see table 37), and entry $H^M$ does not call for any special counterpart, since it is covered by the global adjustment taking account of purchases of non-material services from the non-material sphere (code $N_1$). In the non-material sphere such expenditure is included in wages and salaries, and the adjustment is set forth in row 9, column 1; in this case the material part of the expenditure in question ($B^N$) and the material ($H^N$) do not require any special counterpart adjustments, since they are naturally covered by the adjustments previously made in inputs in the non-material sphere to take account of purchases from the material sphere (code I) and purchases in the non-material sphere itself (code $N_{2,i}$), respectively, (see paragraph 470).

539. Finally, adjustment $U^N$ is included in the column containing information on wages and salaries in the non-material sphere in order to deduct expenditure by employers on work uniforms, which is regarded as intermediate consumption in SNA and treated as wages in kind in MPS (see paragraph 473).

(b) Social security contributions paid by employers

540. As already pointed out, in MPS employers' contributions to social security schemes are covered by primary income of enterprises in the material sphere, whereas in SNA such employers' contributions form part of the remuneration of employees (see paragraphs 146, 290 and 312). Moreover, the difference in the content of social security contributions paid by employers in the two systems, and in the practice of the Latin American countries, also arises from the basic concept

/of output,

of output, since in MPS contributions in the non-material sphere are not included. The adjustments in question are represented in table 39 by entries in rows 2 and 8 in column 2.

541. It should be borne in mind that owing to the different scope and purpose of such contributions in the individual Latin American countries it was suggested, for the purpose of improved comparability, that in the case of Cuba the amount of employers' contributions should be calculated on the basis of an assigned contribution (see paragraph 386).

(c) Net indirect taxes

542. This category is different in the two systems, chiefly owing to the fact that as a result of the basic difference in the concept of output in MPS net indirect taxes in the non-material sphere are not included and taxes in the material sphere are included in the operating surplus of enterprises (see paragraph 290). The steps required in order to make the adjustments in question are shown in rows 3 and 8, column 3, table 39.

543. When these adjustments are made it is taken for granted that they take account of the difference pointed out with regard to tariffs on direct purchases by the population abroad (see paragraph 408).

(d) Operating surplus

544. The chief difference in the operating surplus arises from the basic concept of output. In other words, the MPS category does not include the operating surplus of units in the non-material sphere ($G^N$), while the operating surplus of units in the material sphere is included in the value of non-material services purchased by such units ($N_1 + F_o$). These differences call for the adjustments set forth in rows 8 and 3, column 4, table 39, respectively.

545. As pointed out, in MPS the net operating surplus of small private enterprises in the material sphere, including that of private plots, is dealt with separately from that of other units, since it is regarded as forming part of the primary income of the population, while in SNA such net income of unincorporated enterprises is included in the operating surplus. Therefore, as a counterpart in the opposite direction of the adjustment described in paragraph 537, this difference between the two systems is indicated by means code $G^M$ in row 1, column 4.

546. It should be pointed out that in the case of Cuba no such adjustment should be made in the non-material sphere, since the operating surplus in that sphere only covers that of collective enterprises, there being no small private enterprises engaged in non-material activities.

547. The other adjustments in column 4 concern differences shown in that same table with regard to the treatment of employers' contributions to social security schemes and indirect taxes in the material sphere (see paragraphs 540 and 542), as well as differences arising in the sphere of output relating to the method of treating losses (see paragraphs 542, and 492) and the method of recording the residual value of discarded assets (see paragraph 491).

548. Lastly, it should be mentioned that, if gross output of residential services and financial institutions is valued at the level of explicit cost, as proposed for the purpose of conversion, no operating surplus whatever should be charged (see paragraphs 428 and 431).